DOMUS DE JANAS

ARTE E ARCHITETTURA NELLA PREISTORIA DELLA SARDEGNA.

PATRIMONIO MUNDIAL • WORLD HERITAGE • PATRIMOINE MONDIAL

ART AND ARCHITECTURE IN THE PREHISTORY OF SARDINIA

The domus de janas

NOMINATION FORMAT

Art and Architecture in the Prehistory of Sardinia

The domus de janas

UNESCO
World Heritage List

NOMINATION FORMAT

a

b

FOREWORD

On April 9, 2021, following the positive opinion of the Italian Ministry of Culture (MiC), in consultation with the Italian National UNESCO Commission (CNIU), the nomination "Art and Architecture in the Prehistory of Sardinia. The domus de janas", submitted by Centro Studi "Identità e Memoria" (Cesim/APS) and the Network of Municipalities of decorated domus de janas, was published in the UNESCO Tentative List (https://whc.unesco.org/en/tentativelists/6523).
With this request, a long process officially began to include in the World Heritage List, 26 monumental complexes which are paradigmatic of about 5,000 monuments or places inhabited by island communities during Prehistory. The work has witnessed the collaboration of public institutions, territorial bodies, research institutes and representatives of the communities. The nomination proposal takes into account the cultural environment ranging from the Middle Neolithic to the Copper Age, up to the dawn of the Bronze Age and before the start of the Nuragic civilization, between the 5th and the end of the 3rd millennium BCE. The broad period appears to be marked by the presence of two major cultural phenomena documented along the coasts of the Mediterranean and continental Europe: hypogeism and megalithism. Both phenomena resulted in a great number and a variety of examples made using novel construction techniques: rock excavation and three-stone construction, not to mention the dry-laid stone construction technique, already popular on the island and that has endured to date.
The nominated monumental archaeological property allows us to reconstruct the daily life of the prehistoric communities of the period of reference, as it includes the most significant examples of the "functional categories" of architecture, that is, structures of a civil, funerary and magical-religious nature.
Among the selected monuments, the domus de janas, artificial funerary caves, an expression of funerary hypogeism, stand out for their high number. This burial model includes about 3,500 examples in Sardinia and, in at least 220 of them, there are art decorations of various types, made using sculpture, painting and engraving; for the quality and value of the artistic finds, they are a historical, cultural and artistic heritage of the highest value, almost unique in the world. Small caves first appeared in the 5th millennium BCE and continue throughout the prehistoric period considered for the nomination.
Examples of natural hypogeism are the caves and shelters, represented by Grotta Corbeddu in Oliena and from the Shelter of Luzzanas in Ozieri, the former being of mixed, residential and funerary use, the latter being possibly of funerary use only.
Among the dry-laid rock constructions is the Village of Serra Linta (Sedilo), attributed to the end of the 5th millennium BCE, which falls into the category of outdoor dwellings. Mainly dry-laid, with megalithic walls, are the magical-religious-dwelling Complex of Monte d 'Accoddi (Sassari) and the fortified village of Monte Baranta (Olmedo). Particularly important structures are those strictly attributable to megalithism such as the Circles of Li Muri in Arzachena, the dolmen of Sa Coveccada in Mores, a paradigmatic examples of 255 dolmen/allées couvertes, and the structures of the Park of Pranu Mutteddu in Goni, which shows a triple function, funerary and worship, and dwelling; in this site hypogeism and megalithism also coexist, sometimes merging structurally and there are numerous menhirs, in pairs, in triads or lineups, paradigmatic of the 740 menhirs recorded in Sardinia.
Finally, the nomination include the site of Su Furru de Is Zinzurreddus with the lithic workshops of Monte Arci, where the communities lived and worked on a subsistence basis. Particularly significant and interesting are those of Sennisceddu-Pau, the subject of high-level scientific studies and carefully valued, in a wide and varied educational syllabus, at various levels of knowledge and experimentation.

Giuseppa Tanda
President of "Centro Studi Identità e Memoria" (CeSIM/APS).
Nomination Project Coordinator

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DOMUS DE JANAS
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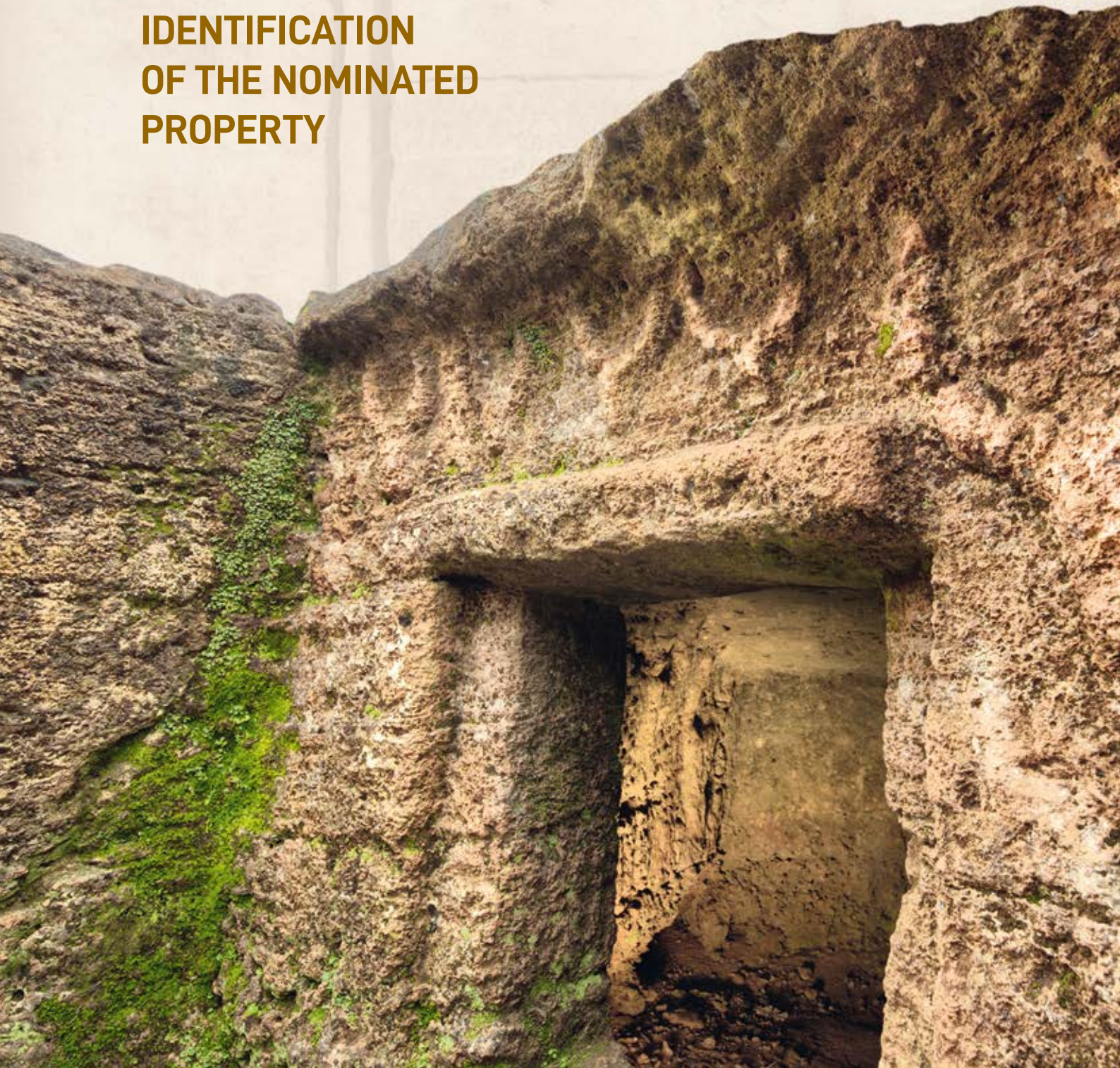
1

ART AND ARCHITECTURE IN THE PREHISTORY OF SARDINIA

The domus de janas

IDENTIFICATION OF THE NOMINATED PROPERTY



Identification of the Nominated Property

1.a - Country

Italy

1.b - Region, Province, Municipality

Italy
Autonomous Region of Sardinia / Regione Autònoma de Sardigna
Province of Sassari
Province of Nuoro
Province of Oristano
Province of Sud Sardegna

1.c - Name of nominated property

Arte e Architettura nella Preistoria della Sardegna. Le *domus de janas*

1.d - Geographical coordinates to the nearest second

Table I: Geographical coordinates and areas of the nominated property and its buffer zone

ID#	Name of the component part	Region/Province/Municipality	Coordinates of the central point	Area of nominated component part (ha)	Area of the Buffer Zone	Map No.
001	Necropolis of Anghelu Ruju	Autonomous Region of Sardinia Province of Sassari Municipality of Alghero	N 40° 37' 57" E 8° 19' 36"	7.07	779.48	1.e.i 01-1 1.e.i 01-2 1.e.i 01-a 5.b 01-1 5.b 01-2 5.b 01-3
002	Necropolis of Puttu Codinu	Autonomous Region of Sardinia Province of Sassari Municipality of Villanova Monteleone	N 40° 29' 14" E 8° 31' 8"	2.70	520.39	1.e.i 02-1 1.e.i 02-2 1.e.i 02-a 5.b 02-1 5.b 02-2
003	Necropolis of Monte Siseri or S'Incantu	Autonomous Region of Sardinia Province of Sassari Municipality of Putifigari	N 40° 36' 23" E 8° 25' 48"	4.87	2369.10	1.e.i 03-1 1.e.i 03-2 1.e.i 03-a 5.b 03-1 5.b 03-2
004	Fortified complex of Monte Baranta	Autonomous Region of Sardinia Province of Sassari Municipality of Olmedo	N 40° 37' 55" E 8° 23' 50"	79.44		
005	Necropolis of Mesu 'e Montes	Autonomous Region of Sardinia Province of Sassari Municipality of Ossi	N 40° 37' 51" E 8° 37' 5"	6.57	471.81	1.e.i 04-1 1.e.i 04-2 1.e.i 04-a 5.b 04-1 5.b 04-2
006	Sanctuary of Monte d'Accoddi	Autonomous Region of Sardinia Province of Sassari Municipality of Sassari	N 40 °15' 26" E 8° 26' 56"	37.39	1272.64	1.e.i 05-1 1.e.i 05-2 1.e.i 05-a 5.b 05-1 5.b 05-2 5.b 05-3
007	Necropolis of Su Crucifissu Mannu	Autonomous Region of Sardinia Province of Sassari Municipality of Porto Torres	N 40° 48' 39" E 8° 26' 34"	9.85		
008	Domus de janas of Orto del Beneficio Parrocchiale	Autonomous Region of Sardinia Province of Sassari Municipality of Sennori	N 40° 47' 20" E 8° 35' 40"	0.31	44.0	1.e.i 06-1 1.e.i 06-2 1.e.i 06-a 5.b 06-1 5.b 06-2 5.b 06-3
009	Domus de janas of Roccia dell'Elefante	Autonomous Region of Sardinia Province of Sassari Municipality of Castelsardo	N 40° 53' 22" E 8° 44' 46"	4.71	2220.74	1.e.i 07-1 1.e.i 07-2 1.e.i 07-a 5.b 07-1 5.b 07-2

ID#	Name of the component part	Region/Province/Municipality	Coordinates of the central point	Area of nominated component part (ha)	Area of the Buffer Zone	Map No.
010	Necropolis of Li Muri	Autonomous Region of Sardinia Province of Sassari Municipality of Arzachena	N 41° 04' 13" E 9° 19' 18"	21.32	753.12	1.e.i 08-1 1.e.i 08-2 1.e.i 08-a 5.b 08-1 5.b 08-2
011	Petroglyph Park	Autonomous Region of Sardinia Province of Sassari Municipality of Cheremule	N 40° 29' 11" E 8° 48' 86"	1.78	469.07	1.e.i 09-1 1.e.i 09-2 1.e.i 09-a 5.b 09-1 5.b 09-2
012	Dolmen of Sa Coveccada	Autonomous Region of Sardinia Province of Sassari Municipality of Mores	N 40° 30' 29" E 8° 52' 00"	1.22	1423.19	1.e.i 10-1 1.e.i 10-2 1.e.i 10-a 5.b 10-1 5.b 10-2
013	Shelter of Luzzanas	Autonomous Region of Sardinia Province of Sassari Municipality of Ozieri	N 40°38'58" E 8° 53' 27"	0.59	938.88	1.e.i 11-1 1.e.i 11-2 1.e.i 11-a 5.b 11-1 5.b 11-2
014	Necropolis of Sant'Andrea Priu	Autonomous Region of Sardinia Province of Sassari Municipality of Bonorva	N 40° 25' 18" E 8° 50' 50"	3.61	2132.29	1.e.i 12-1 1.e.i 12-2 1.e.i 12-a 5.b 12-1 5.b 12-2
015	Necropolis of Sa Pala Larga	Autonomous Region of Sardinia Province of Sassari Municipality of Bonorva	N 40° 24' 37" E 8° 52' 18"	6.31		
016	Necropolis of Sos Furrighesos	Autonomous Region of Sardinia Province of Sassari Municipality of Anela	N 40° 28' 53" E 8° 58' 17"	3.67	825.53	1.e.i 13-1 1.e.i 13-2 1.e.i 13-a 5.b 13-1 5.b 13-2
017	Village of Serra Linta	Autonomous Region of Sardinia Province of Oristano Municipality of Sedilo	N 40° 8' 35" E 8° 54' 20"	22.87	760.19	1.e.i 14-1 1.e.i 14-2 1.e.i 14-a 5.b 14-1 5.b 14-2
018	Necropolis of Ispiluncas	Autonomous Region of Sardinia Province of Oristano Municipality of Sedilo	N 40° 09' 30" E 8 °54' 09"	0.95		
019	Necropolis of Mandras/Mrandas	Autonomous Region of Sardinia Province of Oristano Municipality of Ardauli	N 40° 5' 31" E 8° 56' 0.7"	0.39	385.33	1.e.i 15-1 1.e.i 15-2 1.e.i 15-a 5.b 15-1 5.b 15-2

ID#	Name of the component part	Region/Province/Municipality	Coordinates of the central point	Area of nominated component part (ha)	Area of the Buffer Zone	Map No.
020	Necropolis of Brodu	Autonomous Region of Sardinia Province of Nuoro Municipality of Oniferi	N 40° 19' 19" E 9° 10' 24"	15.00	558.85	1.e.i 16-1 1.e.i 16-2 1.e.i 16-a 5.b 16-1 5.b 16-2
021	Necropolis of Istevéne	Autonomous Region of Sardinia Province of Nuoro Municipality of Mamoiada	N 40° 11' 36" E 9° 17' 30"	0.67	559.68	1.e.i 17-2 1.e.i 17-a 5.b 17-1 5.b 17-2
022	Grotta Corbeddu	Autonomous Region of Sardinia Province of Nuoro Municipality of Oliena	N 40° 15' 19" E 9° 29' 10"	1.34	3601.68	1.e.i 18-1 1.e.i 18-2 1.e.i 18-a 5.b 18-1 5.b 18-2
023	Menhir of Monte Corru Tundu	Autonomous Region of Sardinia Province of Oristano Municipality of Villa Sant'Antonio	N 39°52'33,07" E 8°54'04,87"	1.59	240.88	1.e.i 19-1 1.e.i 19-2 1.e.i 19-a 5.b 19-1 5.b 19-2
024	Shelter of Su Forru de is Sinzurreddus and the stone tool workshops of Sennixeddu	Autonomous Region of Sardinia Province of Oristano Municipality of Pau	N 39° 48' 08" E 8° 46' 12"	0.94	822.34	1.e.i 20-1 1.e.i 20-2 1.e.i 20-a 5.b 20-1 5.b 20-2
025	Archaeological Park of Pranu Mutteddu	Autonomous Region of Sardinia Province of Sud Sardegna Municipality of Goni	N 39° 34' 06" E 9° 16' 08"	45.07	388.55	1.e.i 21-1 1.e.i 21-2 1.e.i 21-a 5.b 21-1 5.b 21-2
026	Necropolis of Montessu	Autonomous Region of Sardinia Province of Sud Sardegna Municipality of Villaperuccio	N 39 8' 1" E 8° 40' 6"	40.63	759.50	1.e.i 22-1 1.e.i 22-2 1.e.i 22-a 5.b 22-1 5.b 22-2
Total area (in hectares)				320.86 ha	22297.11 ha	

1.e - Maps and plans, showing the boundaries of the nominated property and buffer zone

The maps of the Nominated Property and its component parts were all processes using on GIS project specifically created in 2023 to support the activities for the nomination.
In particular, the information layers of the Regional Multiprecision DB, updated in 2022, were mainly used as cartographic bases, thus securing a fairly good image quality up to scale 1: 5,000 and the high-resolution AR-GEA orthoimage (20 cm) allow a good image quality up to scale 1: 2,000. Google Maps- Google Street View, OpenStreetMap, IGMI Cartography and Cadastral Cartography of the Italian Inland Revenue were also used as evidence and supplement.
The boundaries of the components of the nominated serial site have been highlighted with direct reference to the extension of archaeological protection constraints (see par. 5.b). In this regard, noticeably, the boundaries of the protected areas overlap with the boundaries of the cadastral parcels concerned and, as a result, sometimes they do not follow physical or topographical elements.
For the buffer areas, a visual analysis of the territory surrounding the nominated property was first performed, identifying areas that would allow the protection of the scenic layout and the views from and to the monumental complexes, considering a 2500 m analytical radius calculated from the boundary of each identified component.
For the visibility/intervisibility analyses, the DTMs/DSMs available on the Geoportal of Autonomous Region of Sardinia were used.
On such a basis, a preliminary draft copy of the buffer zone boundaries was developed for each component. In some cases, given the proximity of some selected monumental complexes, two component were included within a single buffer zone. Therefore, 22 buffer zones were highlighted for 26 components.
Then, the boundaries highlighted during the first phase were connected to physical/topographical elements easily identifiable on the ground, such as main and secondary roads, simple inter-estate paths, fences or typical natural elements, such as river/stream beds, ridges and watersheds, to facilitate the reconstruction of the zone under study. Preference was given to traffic circulation elements to facilitate access to the best points of view and enhance the nominated site in its landscape context.
At the end of this phase, the compatibility of the boundaries obtained was verified in relation to the landscape-cultural and environmental elements included and to a variety of other data, such as the land registry, the boundaries of natural parks and environmental reserves, the boundaries of other UNESCO sites, the protection constraints posed by the Ministry of Culture, the current urban/landscape planning instruments, and other constraints defined at the municipal level, etc.
Also in this phase, the analyses were based on the "Open Data" available for

1 Cartographic database of the Inland Revenue.

2 HYDROGEOLOGICAL PLAN (PAI-PGRA), CULTURAL HERITAGE (Part II of Legislative Decree 42/2004), LANDSCAPE (Part III of Legislative Decree 42/2004 - Articles 136 and 157 - Part III of Legislative Decree 42/2004 - Article 142 - Areas protected by law - Part III of Legislative Decree 42/2004 - Article 143 paragraph 1 letter d), ADDITIONAL IDENTITY CONTEXTS (Part III of Legislative Decree 42/2004 - Article 143 paragraph 1 letter e), ENVIRONMENT and AGRICULTURE (such as: Natural areas protected at different levels, Wetlands of international importance, Areas included in the Natura 2000 Network, I.B.A., Areas subject to protection by international conventions, etc.).

the areas under study mainly found on the Cartographic Database available on the Geoportal of the Autonomous Region of Sardinia or those made available by the partner Municipalities and/or other public stakeholders.

All the data for the study of the 26 components and their buffer zones were organized in the GIS project to visualize and analyze a variety of data, showing why those buffer zones were chosen and helping define the Management Plan.
Finally, the following series of maps were created:

a. Map set (**Map no. 1.e.i xx – 1)** showing the boundaries of the nominated property and its buffer zone on the Regional Multiscale Database.
b. Map set (**Map no. 1.e.i xx – 2**) showing the boundaries of the nominated property and its buffer zone on Ortofoto AGEA[3].
c. Map set (**Map no. 1.e.i xx – y**) showing in detail, for each of the 26 component parts, the boundaries of the site in relation to the nominated archaeological complex.
d. Map 1.e.ii showing the location of the component parts of the nominated site within Sardinia's territory.
e. Map set (**Map no. 5.b xx – 1**) showing landscape and cultural protection measures pursuant to Italian Legislative Decree 42/2004 (Code of Cultural and Landscape Heritage, Italian protection legislation) and by the RPP (Regional Protection Plan).
f. Map set (**Map no. 5.b xx – 2**) showing environmental protection measures pursuant to Italian Legislative Decree 42/2004 (*(Code of Cultural and Landscape Heritage, Italian protection legislation*) and by the PPR (Regional Landscape Plan).
g. Map set (**Map no. 5.b xx – 3**) showing additional protection measures according to the Municipal Urban Plans[4].

Another map set is included in paragraph 5.b to highlight the various existing safeguard measures to protect the nominated property.
Due to the different sizes of the components and their buffer zones, the maps are arranged in the dossier according to different scales. Therefore, the reference graphical metric scale and orientation were added to each map. Their geographical coordinates have also been included in 3 of the map corners.
Being attached to the dossier, the same maps can be viewed in detail in a bilingual digital format (Italian/English).

3 Resolution 20cm.

4 Maps made only for the sites of the Municipalities which have adjusted their Municipal Urban Plan according to the Regional Landscape Plan, and have performed all relevant co-planning activities.

1.e.i.01 - Necropolis of Anghelu Ruju, Alghero

Map no. 1.e.i 01 - 1-Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database. Component part: 001. Necropolis of Anghelu Ruju, Alghero

Map no. 1.e.i 01 - 2-Boundaries of the nominated property and its buffer zone on Ortofoto AGEA (res. 20cm.). Component part: 001. Necropolis of Anghelu Ruju, Alghero

Map no. 1.e.i 01 - a-Boundaries of the nominated property on the Regional Multiscale Database and the Plans of the Monument Area. Component part: 001. Necropolis of Anghelu Ruju, Alghero

1.e.i.02 - Necropolis of Puttu Codinu, Villanova Monteleone

Map no. 1.e.i 02 - 1-Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database. Component part: 002. Necropolis of Puttu Codinu-Villanova Monteleone

Map no. 1.e.i 02 - 2-Boundaries of the nominated property and its buffer zone on Ortofoto AGEA (res. 20cm.). Component part: 002. Necropolis of Puttu Codinu-Villanova Monteleone

Map no. 1.e.i 02 - a-Boundaries of the nominated property on the Regional Multiscale Database and the Plans of the Monument Area. Component part: 002. Necropolis of Puttu Codinu-Villanova Monteleone

1.e.i.03 - Archaeological complex of Monte Baranta, Olmedo

Map no. 1.e.i 03 - 1-Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database. Component parts:003 Necropolis of Monte Siseri/S'Incantu, Putifigari - 004. Archaeological complex of Monte Baranta-Olmedo

Map no. 1.e.i 03 - 2-Boundaries of the nominated property and its buffer zone on Ortofoto AGEA (res. 20cm.). Component parts: 003. Necropolis of Monte Siseri/S'Incantu, Putifigari - 004. Archaeological complex of Monte Baranta-Olmedo

Map no. 1.e.i 03 - a-Boundaries of the nominated property on the Regional Multiscale Database and the Plans of the Monument Area. Component part :003 Necropolis of Monte Siseri/S'Incantu, Putifigari.

Map no. 1.e.i 03 - b-Boundaries of the nominated property on the Regional Multiscale Database and the Plans of the Monument Area. Component part: 004. Archaeological complex of Monte Baranta-Olmedo

1.e.i.04 - Necropolis of Mesu 'e Montes, Ossi

Map no. 1.e.i 04 - 1-Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database. Component part: 005. Necropolis of Mesu 'e Montes, Ossi

Map no. 1.e.i 04 - 2-Boundaries of the nominated property and its buffer zone on Ortofoto AGEA (res. 20cm.). Component part: 005. Necropolis of Mesu 'e Montes, Ossi

Map no. 1.e.i 04 - a-Boundaries of the nominated property on the Regional Multiscale Database and the Plans of the Monument Area. Component part: 005. Necropolis of Mesu 'e Montes, Ossi

1.e.i.05 - Su Crucifissu Mannu, Porto Torres

Map no. 1.e.i 05 - 1-Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database. Component parts:006 Sanctuary of Monte d'Accoddi, Sassari - 007. Su Crucifissu Mannu, Porto Torres

Map no. 1.e.i 05 - 2-Boundaries of the nominated property and its buffer zone on Ortofoto AGEA (res. 20cm.). Component parts: 006. Sanctuary of Monte d'Accoddi, Sassari - 007 Su Crucifissu Mannu, Porto Torres

Map no. 1.e.i 05 - a-Boundaries of the nominated property on the Regional Multiscale Database and the Plans of the Monument Area. Component part:006 Sanctuary of Monte d'Accoddi, Sassari

Map no. 1.e.i 05 - b-Boundaries of the nominated property on the Regional Multiscale Database and the Plans of the Monument Area. Component part: 007. Su Crucifissu Mannu, Porto Torres

1.e.i.06 - Domus de janas of Orto del Beneficio Parrocchiale, Sennori

Map no. 1.e.i 06 - 1-Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database. Component part:008 Domus de janas of Orto del Beneficio Parrocchiale, Sennori

Map no. 1.e.i 06 - 2-Boundaries of the nominated property and its buffer zone on Ortofoto AGEA (res. 20cm.). Component part: 008. Domus de janas of Orto del Beneficio Parrocchiale, Sennori

Map no. 1.e.i 06 - a-Boundaries of the nominated property on the Regional Multiscale Database and the Plans of the Monument Area. Component part:008 Domus de janas of Orto del Beneficio Parrocchiale, Sennori

1.e.i.07 - Roccia dell'Elefante, Castelsardo

Map no. 1.e.i 07 - 1-Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database. Component part:009 Roccia dell'Elefante, Castelsardo

Map no. 1.e.i 07 - 2-Boundaries of the nominated property and its buffer zone on Ortofoto AGEA (res. 20cm.). Component part: 009. Roccia dell'Elefante, Castelsardo

Map no. 1.e.i 07 - a-Boundaries of the nominated property on the Regional Multiscale Database and the Plans of the Monument Area. Component part: 009. Roccia dell'Elefante, Castelsardo

1.e.i.08 - Necropolis of Li Muri, Arzachena

Map no. 1.e.i 08 - 1-Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database. Component part: 010. Necropolis of Li Muri, Arzachena

Map no. 1.e.i 08 - 2-Boundaries of the nominated property and its buffer zone on Ortofoto AGEA (res. 20cm.). Component part: 010. Necropolis of Li Muri, Arzachena

Map no. 1.e.i 08 - a-Boundaries of the nominated property on the Regional Multiscale Database and the Plans of the Monument Area. Component part: 010. Necropolis of Li Muri, Arzachena

1.e.i.09 - Petroglyph Park, Cheremule

Map no. 1.e.i 09 - 1-Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database. Component part: 011. Petroglyph Park, Cheremule

Map no. 1.e.i 09 - 2-Boundaries of the nominated property and its buffer zone on Ortofoto AGEA (res. 20cm.). Component part: 011. Petroglyph Park, Cheremule

Map no. 1.e.i 09 - a-Boundaries of the nominated property on the Regional Multiscale Database and the Plans of the Monument Area. Component part: 011. Petroglyph Park, Cheremule

1.e.i.10 - Dolmen of Sa Coveccada, Mores

Map no. 1.e.i 10 - 1-Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database. Component part:012 Dolmen of Sa Coveccada, Mores

Map no. 1.e.i 10 - 2-Boundaries of the nominated property and its buffer zone on Ortofoto AGEA (res. 20cm.). Component part: 012. Dolmen of Sa Coveccada, Mores

Map no. 1.e.i 10 - a-Boundaries of the nominated property on the Regional Multiscale Database and the Plans of the Monument Area. Component part: 012. Dolmen of Sa Coveccada, Mores

1.e.i.11 - Shelter of Luzzanas, Ozieri

Map no. 1.e.i 11 - 1-Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database. Component part: 013. Shelter of Luzzanas, Ozieri

Map no. 1.e.i 11 - 2-Boundaries of the nominated property and its buffer zone on Ortofoto AGEA (res. 20cm.). Component part: 013. Shelter of Luzzanas, Ozieri

Map no. 1.e.i 11 – a-Boundaries of the nominated property on the Regional Multiscale Database and the Plans of the Monument Area. Component part: 013. Shelter of Luzzanas, Ozieri

1.e.i.12 - Necropolis of Sa Pala Larga, Bonorva

Map no. 1.e.i 12 - 1-Boundaries of the nominated property and its buffer zone on the

Regional Multiscale Database. Parts: 014. Necropolis of Sant'Andrea Priu, Bonorva, 015, Necropolis of Sa Pala Larga, Bonorva

Map no. 1.e.i 12 - 2-Boundaries of the nominated property and its buffer zone on Ortofoto AGEA (res. 20cm.). Component parts: 014. Necropolis of Sant'Andrea Priu, Bonorva - 015, Necropolis of Sa Pala Larga, Bonorva

Map no. 1.e.i 12 - a-Boundaries of the nominated property on the Regional Multiscale Database and the Plans of the Monument Area. Component part: 014. Necropolis of Sant'Andrea Priu, Bonorva,

Map no. 1.e.i 12 - b-Boundaries of the nominated property on the Regional Multiscale Database and the Plans of the Monument Area. Component part: 015. Necropolis of Sa Pala Larga, Bonorva

1.e.i.13 - Necropolis of Sos Furrighesos, Anela

Map no. 1.e.i 13 - 1-Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database. Component part:016 Necropolis of Sos Furrighesos, Anela

Map no. 1.e.i 13 - 2-Boundaries of the nominated property and its buffer zone on Ortofoto AGEA (res. 20cm.). Component part: 016. Necropolis of Sos Furrighesos, Anela

Map no. 1.e.i 13 - a-Boundaries of the nominated property on the Regional Multiscale Database and the Plans of the Monument Area. Component part:016 Necropolis of Sos Furrighesos, Anela

1.e.i.14 - Necropolis of Iloi Ispiluncas, Sedilo

Map no. 1.e.i 14 - 1-Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database. Component part: 017. Village of Serra Linta, Sedilo - 018. Necropolis of Iloi Ispiluncas, Sedilo

Map no. 1.e.i 14 - 2-Boundaries of the nominated property and its buffer zone on Ortofoto AGEA (res. 20cm.). Component part: 017. Village of Serra Linta, Sedilo - 018.Necropolis of Iloi Ispiluncas, Sedilo

Map no. 1.e.i 14 - a-Boundaries of the nominated property on the Regional Multiscale Database and the Plans of the Monument Area. Component part: 017. Village of Serra Linta, Sedilo

Map no. 1.e.i 14 - a-Boundaries of the nominated property on the Regional Multiscale Database and the Plans of the Monument Area. Component part: 018.Necropolis of Iloi Ispiluncas, Sedilo

1.e.i.15 - Necropolis of Madras (Mrandas), Ardauli

Map no. 1.e.i 15 - 1-Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database. Component part: 019. Necropolis of Madras/Mrandas, Ardauli

Map no. 1.e.i 15 - 2-Boundaries of the nominated property and its buffer zone on Ortofoto AGEA (res. 20cm.). Component part: 019. Necropolis of Madras/Mrandas, Ardauli

Map no. 1.e.i 15 - a-Boundaries of the nominated property on the Regional Multiscale Database and the Plans of the Monument Area. Component part: 019. Necropolis of Madras/Mrandas, Ardauli

1.e.i.16 - Necropolis of Brodu, Oniferi

Map no. 1.e.i 16 - 1-Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database. Component part: 020. Necropolis of Brodu, Oniferi

Map no. 1.e.i 16 - 2-Boundaries of the nominated property and its buffer zone on Ortofoto AGEA (res. 20cm.). Component part: 020. Necropolis of Brodu, Oniferi

Map no. 1.e.i 16 - a-Boundaries of the nominated property on the Regional Multiscale Database and the Plans of the Monument Area. Component part: 020. Necropolis of Brodu, Oniferi

1.e.i.17 - Necropolis of Istevéne, Mamoiada

Map no. 1.e.i 17 - 1-Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database. Component part: 021. Necropolis of Istevéne, Mamoiada

Map no. 1.e.i 17 - 2-Boundaries of the nominated property and its buffer zone on Ortofoto AGEA (res. 20cm.). Component part: 021. Necropolis of Istevéne, Mamoiada

Map no. 1.e.i 17 - a-Boundaries of the nominated property on the Regional Multiscale Database and the Plans of the Monument Area. Component part: 021. Necropolis of Istevéne, Mamoiada

1.e.i.18 - Grotta Corbeddu, Oliena

Map no. 1.e.i 18 - 1-Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database. Component part: 022. Cave of Corbeddu, Oliena

Map no. 1.e.i 18 - 2-Boundaries of the nominated property and its buffer zone on Ortofoto AGEA (res. 20cm.). Component part: 022. Cave of Corbeddu, Oliena

Map no. 1.e.i 18 - a-Boundaries of the nominated property on the Regional Multiscale Database and the Plans of the Monument Area. Component part: 022. Cave of Corbeddu, Oliena

1.e.i.19 - Menhir of Cuccuru Tundu, Villa Sant'Antonio

Map no. 1.e.i 19 - 1-Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database. Component part: 023. Menhir of Cuccuru Tundu, Villa Sant'Antonio

Map no. 1.e.i 19 - 2-Boundaries of the nominated property and its buffer zone on Ortofoto AGEA (res. 20cm.). Component part: 023. Menhir of Cuccuru Tundu, Villa Sant'Antonio

Map no. 1.e.i 19 - a-Boundaries of the nominated property on the Regional Multiscale Database and the Plans of the Monument Area. Component part: 023. Menhir of Cuccuru Tundu, Villa Sant'Antonio

1.e.i.20 - Stone tool workshops of Sennixeddu and Shelter of Su Forru de is Sinzurreddus, Pau

Map no. 1.e.i 20 - 1-Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database. Component part: 024. Stone tool workshops of Sennixeddu and Shelter of Su Forru de is Sinzurreddus, Pau

Map no. 1.e.i 20 - 2-Boundaries of the nominated property and its buffer zone on Ortofoto AGEA (res. 20cm.). Component part: 024. Stone tool workshops of Sennixeddu and Shelter of Su Forru de is Sinzurreddus, Pau

Map no. 1.e.i 20 - a-Boundaries of the nominated property on the Regional Multiscale Database and the Plans of the Monument Area. Component part: 024. Stone tool workshops of Sennixeddu and Shelter of Su Forru de is Sinzurreddus, Pau

1.e.i.21 - Pranu Mutteddu, Goni

Map no. 1.e.i 21 - 1-Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database. Component part: 025. Pranu Mutteddu, Goni

Map no. 1.e.i 21 - 2-Boundaries of the nominated property and its buffer zone on Ortofoto AGEA (res. 20cm.). Component part: 025. Pranu Mutteddu, Goni

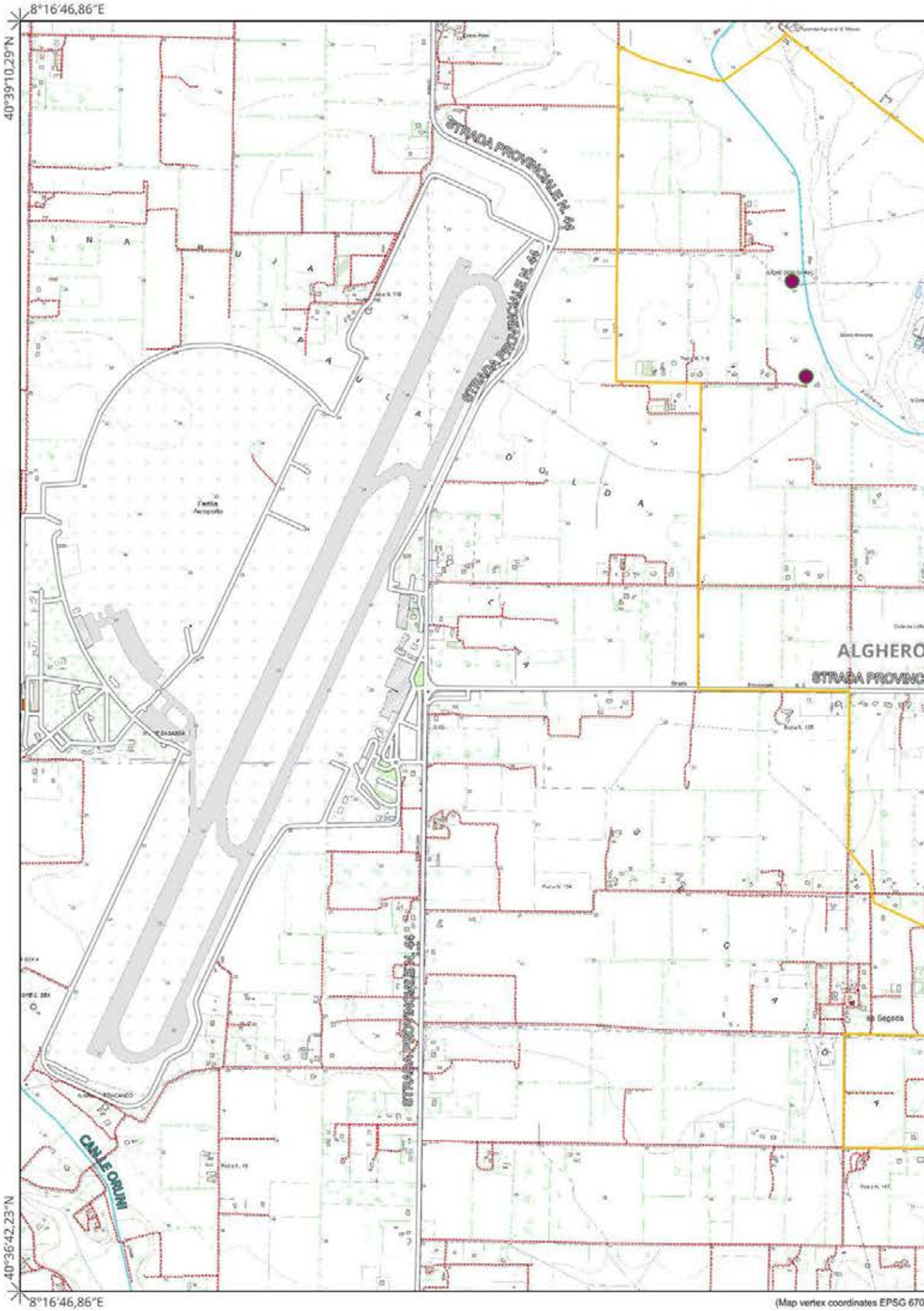
Map no. 1.e.i 21 - a-Boundaries of the nominated property on the Regional Multiscale Database and the Plans of the Monument Area. Component part: 025. Pranu Mutteddu, Goni

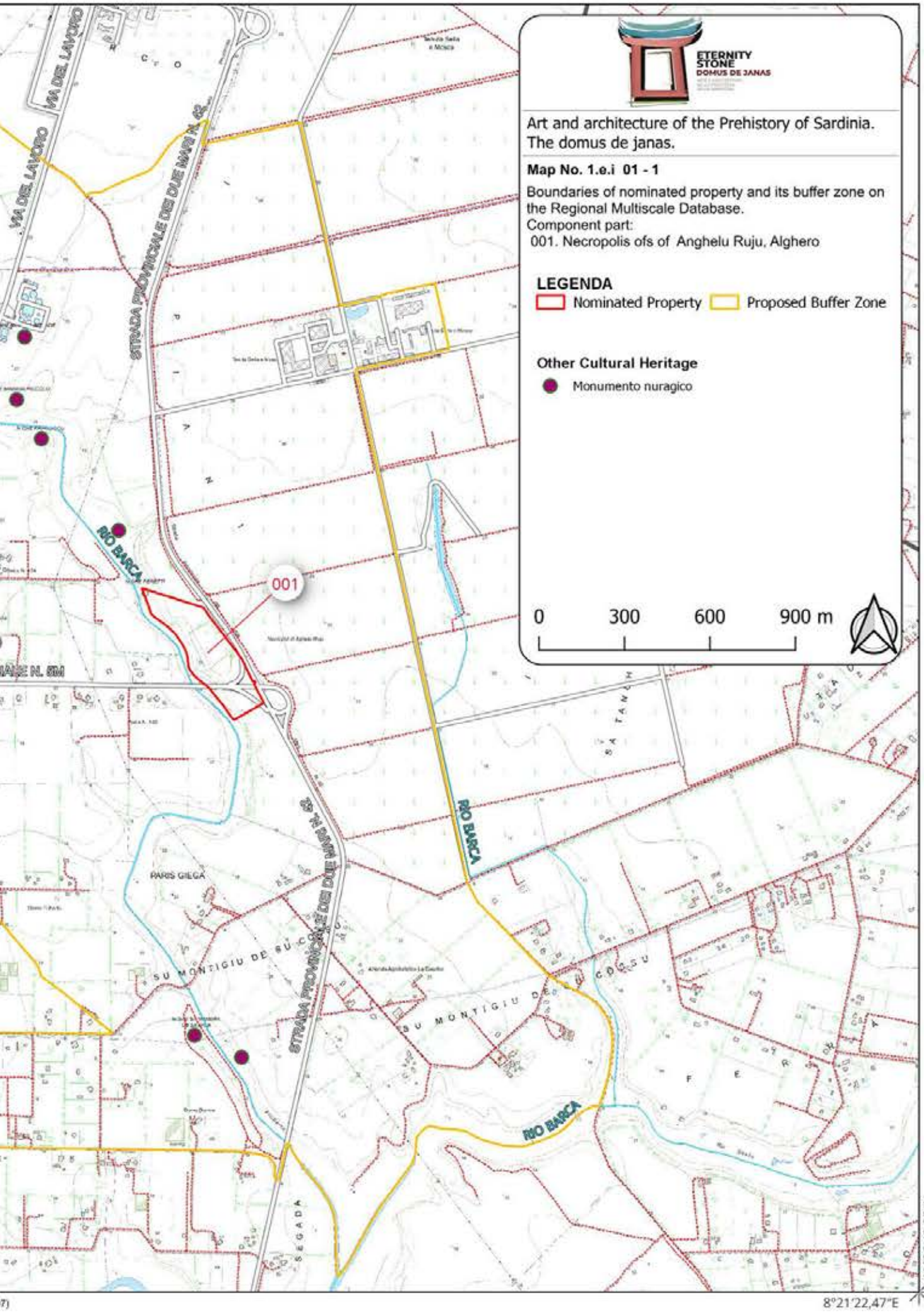
1.e.i.22 - Necropolis of Montessu, Villaperuccio

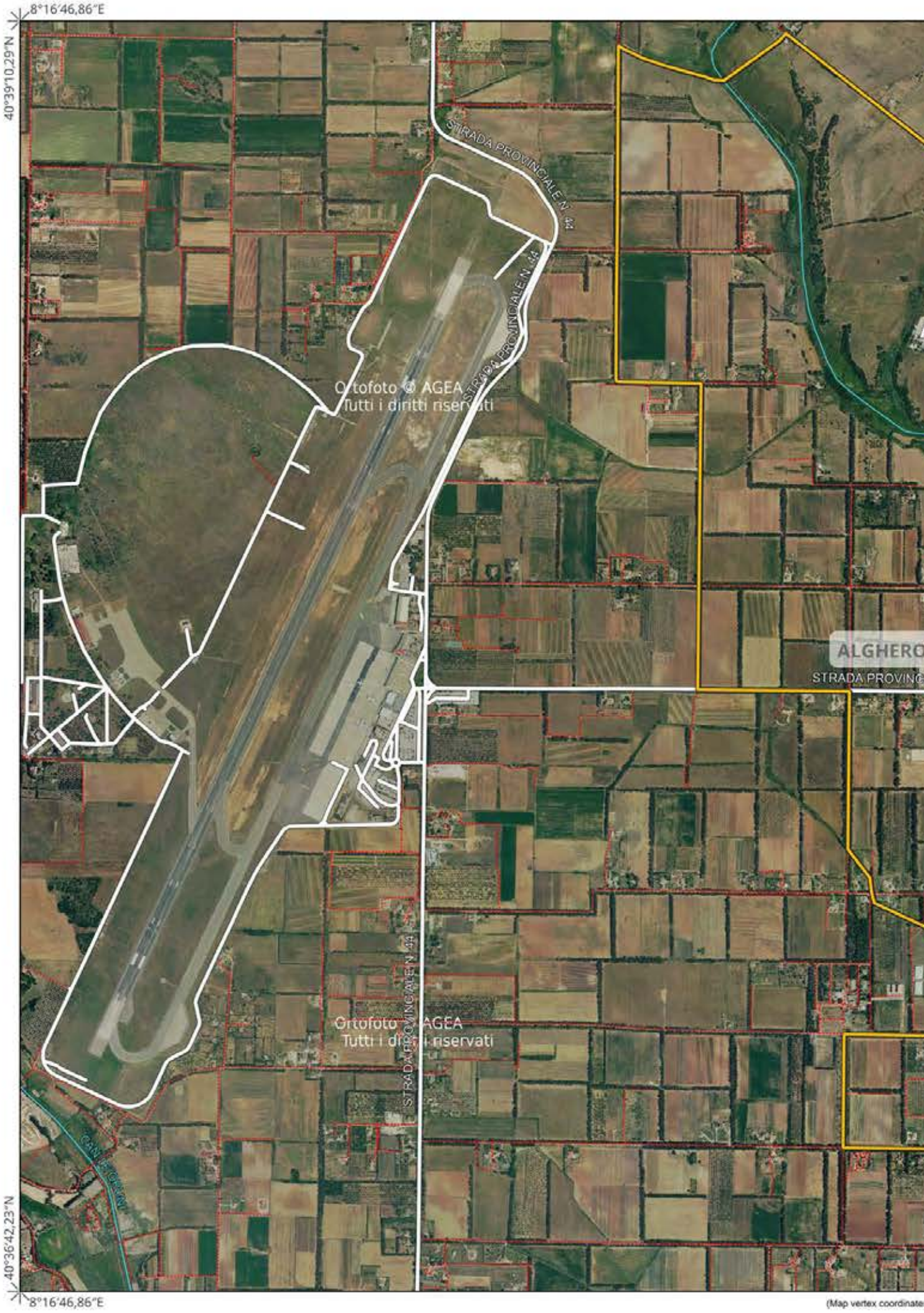
Map no. 1.e.i 22 - 1-Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database. Component part:026 Necropolis of Montessu, Villaperuccio

Map no. 1.e.i 22 - 2-Boundaries of the nominated property and its buffer zone on Ortofoto AGEA (res. 20cm.). Component part: 026. Necropolis of Montessu, Villaperuccio

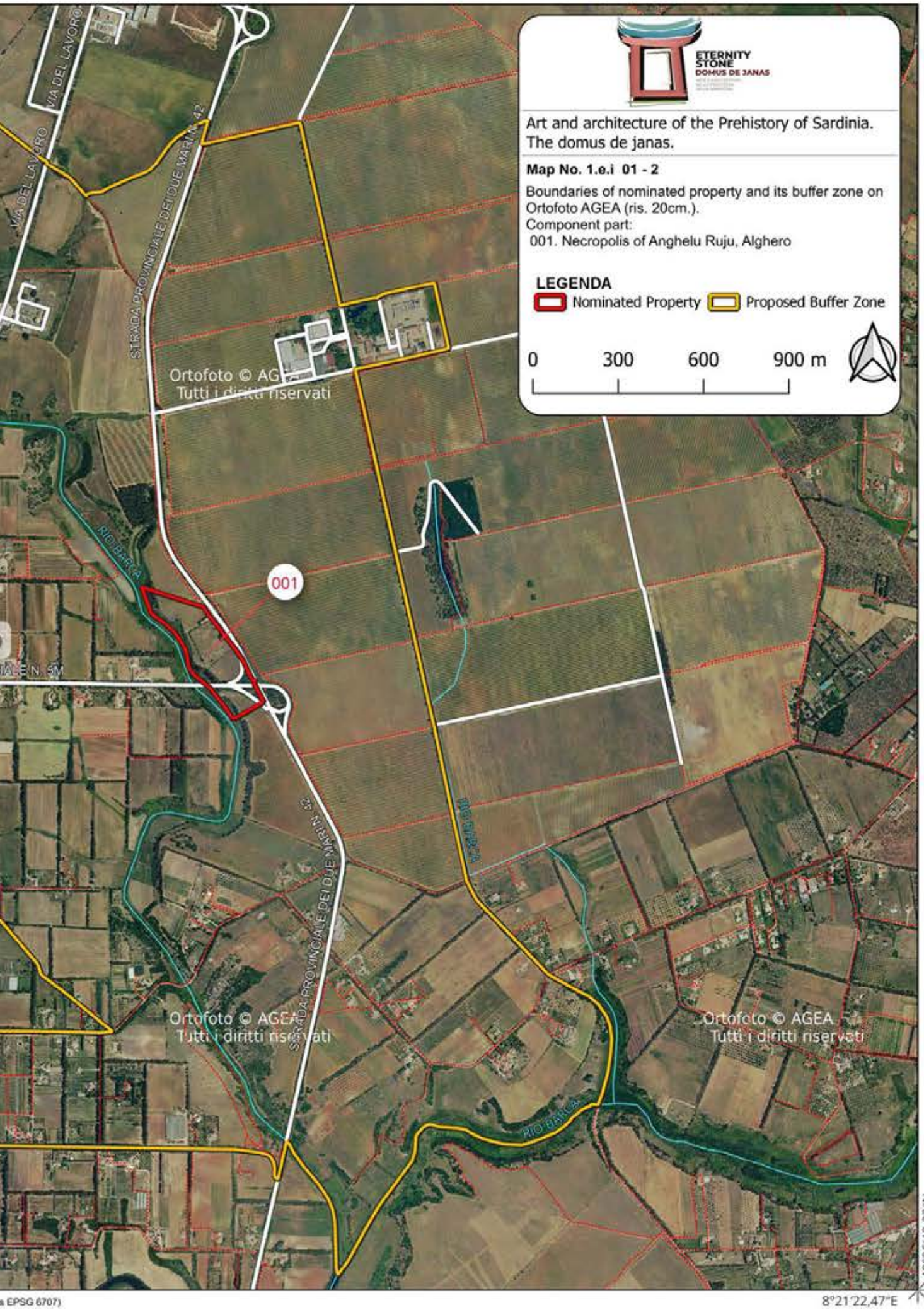
Map no. 1.e.i 22 - a-Boundaries of the nominated property on the Regional Multiscale Database and the Plans of the Monument Area. Component part: 026. Necropolis of Montessu, Villaperuccio

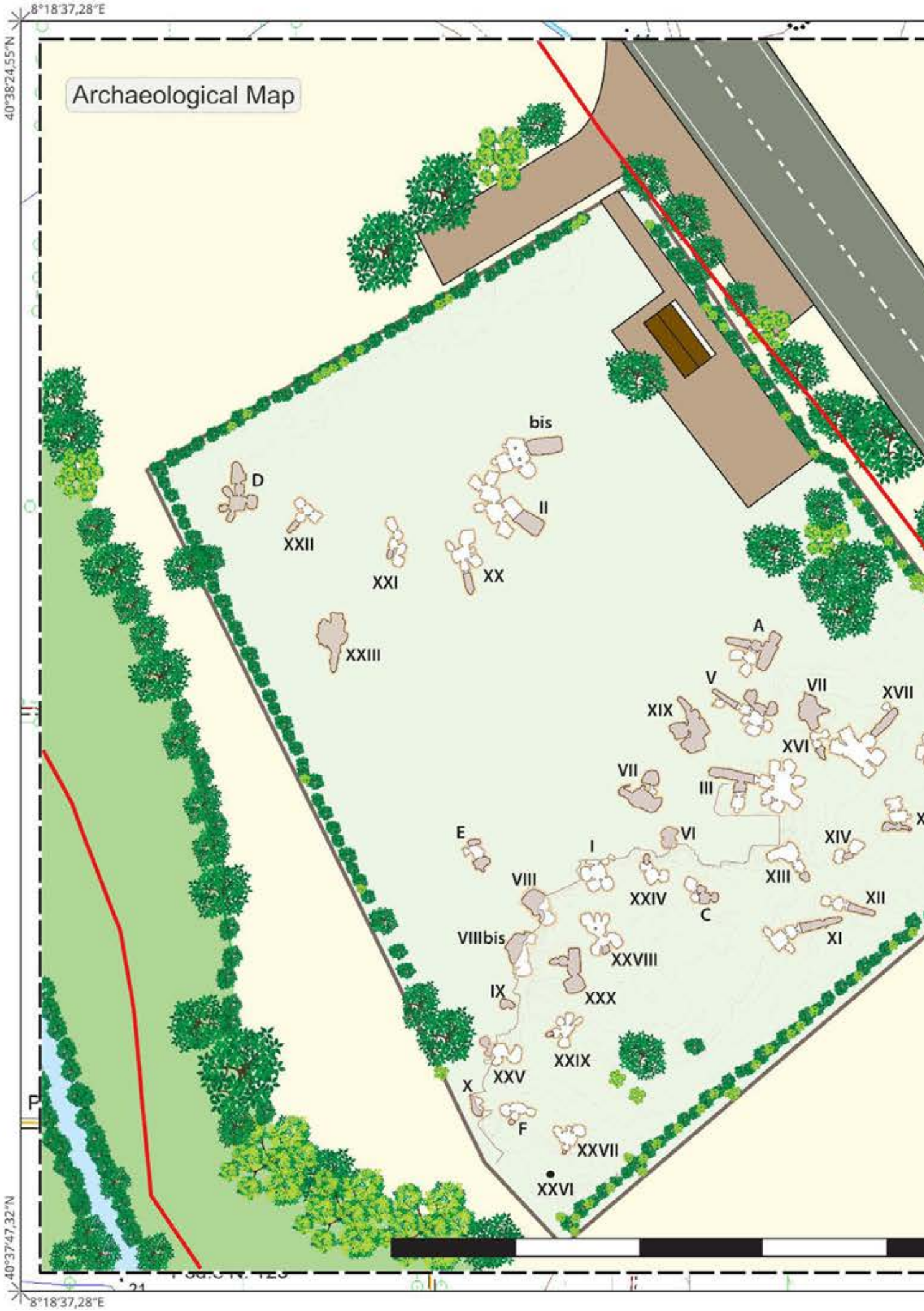

8°16'46,86"E
40°39'10,29"N
40°36'42,23"N
8°16'46,86"E
STRADA PROVINCIALE N. 69
STRADA PROVINCIALE N. 69
STRADA PROVINCIALE N. 69
Fertia
Aeroporto
ALGHERO
Seçaca
CANALE ORUNI
(Map vertex coordinates EPSG 670

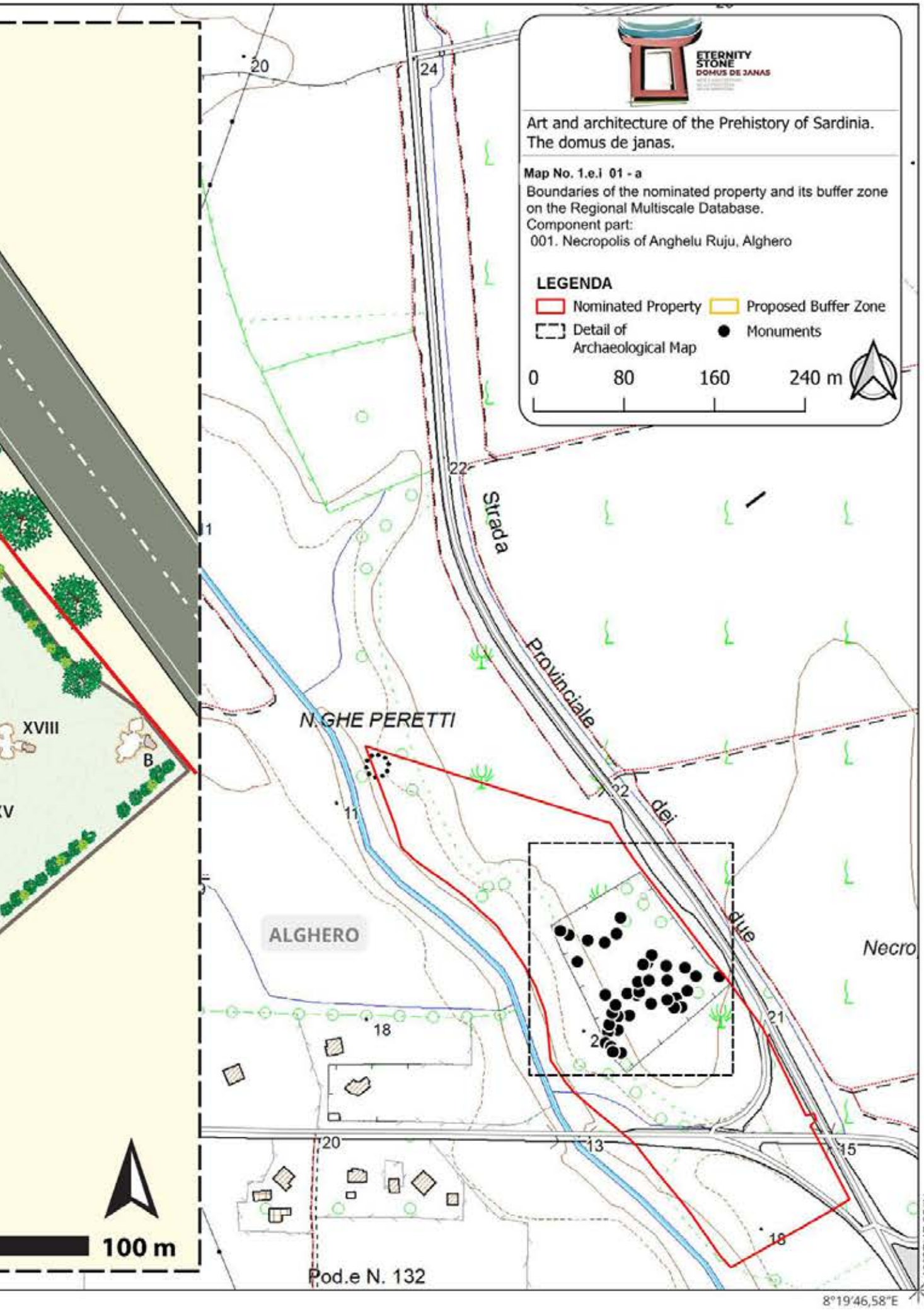

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 01 - 1
Boundaries of nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
001. Necropolis ofs of Anghelu Ruju, Alghero
LEGENDA
Nominated Property
Proposed Buffer Zone
Other Cultural Heritage
Monumento nuragico
0
300
600
900 m
001
RIO BARCA
STRADA PROVINCIALE DES DUE MARI N. 42
VIA DEL LAVORO
PARIS GIEGA
SU MONTIGIU DE SU COGGIU
SEGADA
40°36'42.23"N
8°21'22,47"E



(Map vertex coordinate


ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 01 - 2
Boundaries of nominated property and its buffer zone on Ortofoto AGEA (ris. 20cm.).
Component part:
001. Necropolis of Anghelu Ruju, Alghero
LEGENDA
Nominated Property
Proposed Buffer Zone
0
300
600
900 m
VIA DEL LAVORO
STRADA PROVINCIALE DEI DUE MARI N. 42
Ortofoto © AGEA
Tutti i diritti riservati
RIO BARCA
001
Ortofoto © AGEA
Tutti i diritti riservati
Ortofoto © AGEA
Tutti i diritti riservati
40°36'42,23"N
8°21'22,47"E
a EPSG 6707)


8°18'37,28"E
40°38'24,55"N
Archaeological Map
bis
D
II
XXII
XXI
XX
XXIII
A
V
VII
XVII
XIX
XVI
VII
III
E
I
VI
XIV
VIII
XXIV
XIII
C
XII
VIIIbis
XXVIII
XI
IX
XXX
XXIX
XXV
X
F
XXVII
XXVI
40°37'47,32"N
8°18'37,28"E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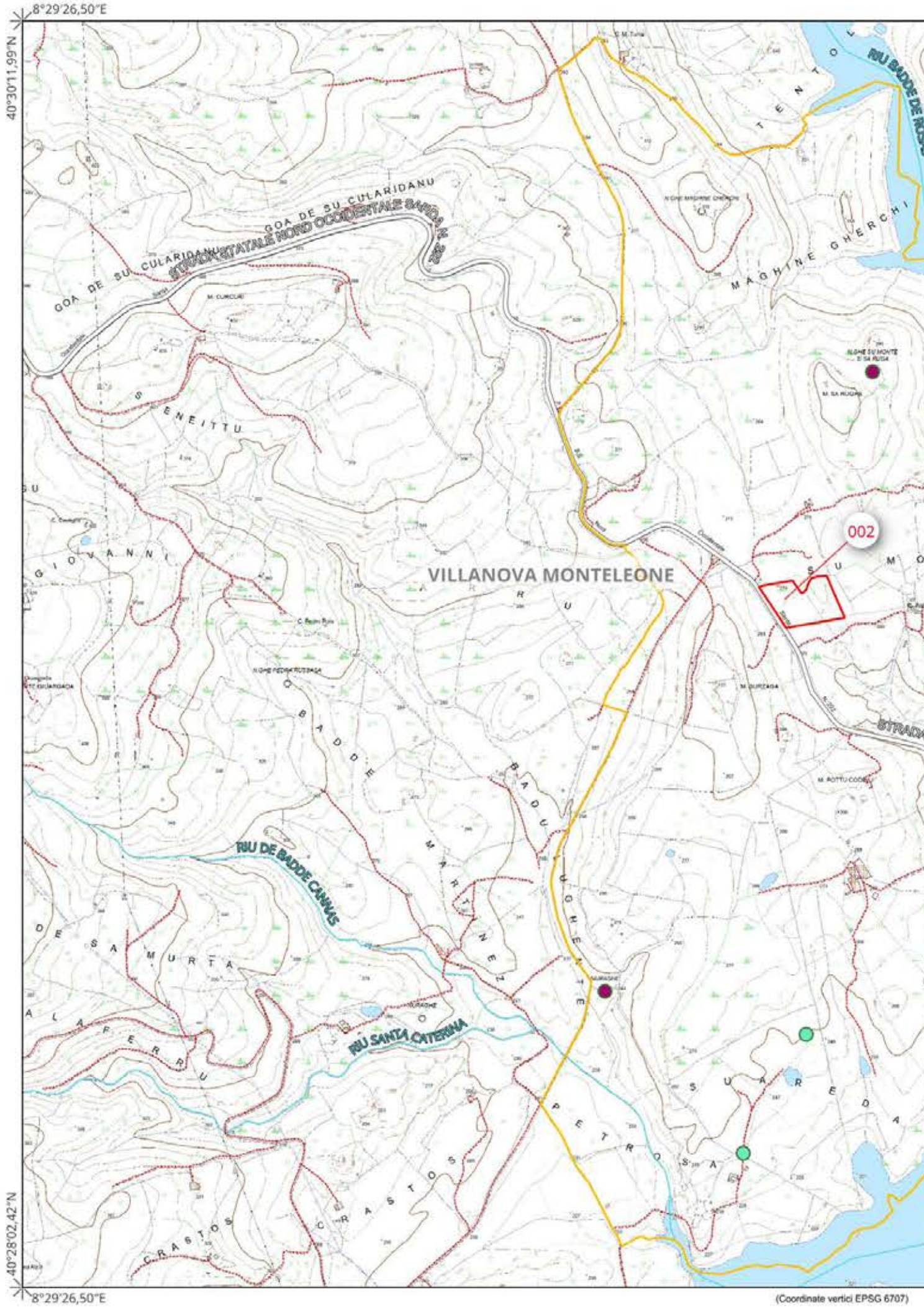
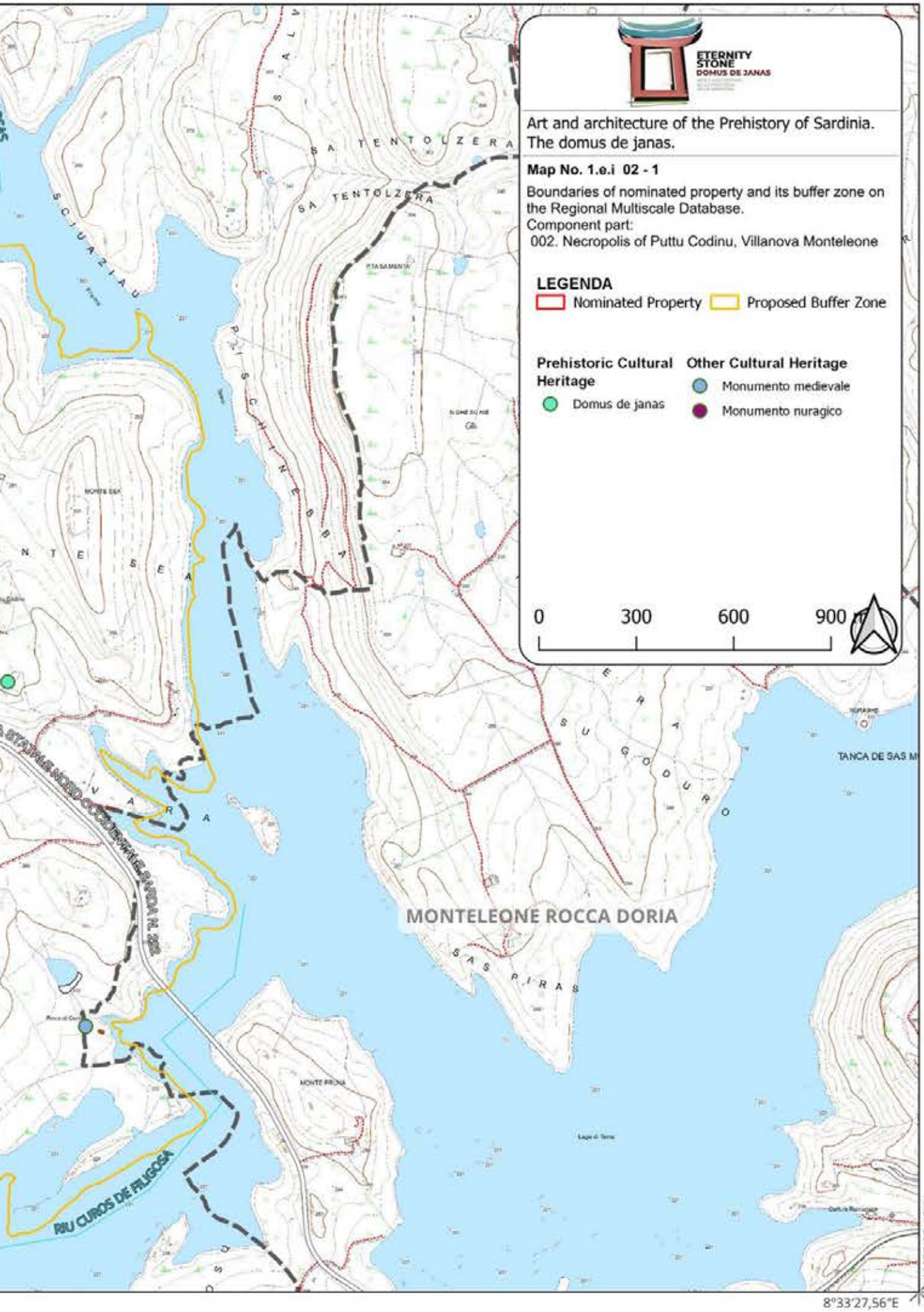
The domus de janas.
Map No. 1.e.i 01 - a
Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
001. Necropolis of Anghelu Ruju, Alghero
LEGENDA
Nominated Property
Proposed Buffer Zone
Detail of Archaeological Map
Monuments
0 80 160 240 m
Strada Provinciale dei due
N.GHE PERETTI
ALGHERO
Necro
Pod.e N. 132
100 m
40°37'47,32"N
8°19'46,58"E


8°29'26,50"E
40°30'11,99"N
40°28'02,42"N
8°29'26,50"E
(Coordinate vertici EPSG 6707)
VILLANOVA MONTELEONE
002
RIU DE BADDE CANNAS
RIU SANTA CATERINA
GOA DE SU CULARIDANU
STRADA STATALE NORD OCCIDENTALE SARDA
MAGHINE GHERCHI
BADDE MARTINE
BADU UGHENE
DESA MURTA
ALA FERRU
CRASTOS
PETROSA
SUARE DA
S'ENEITTU
GIOVANNI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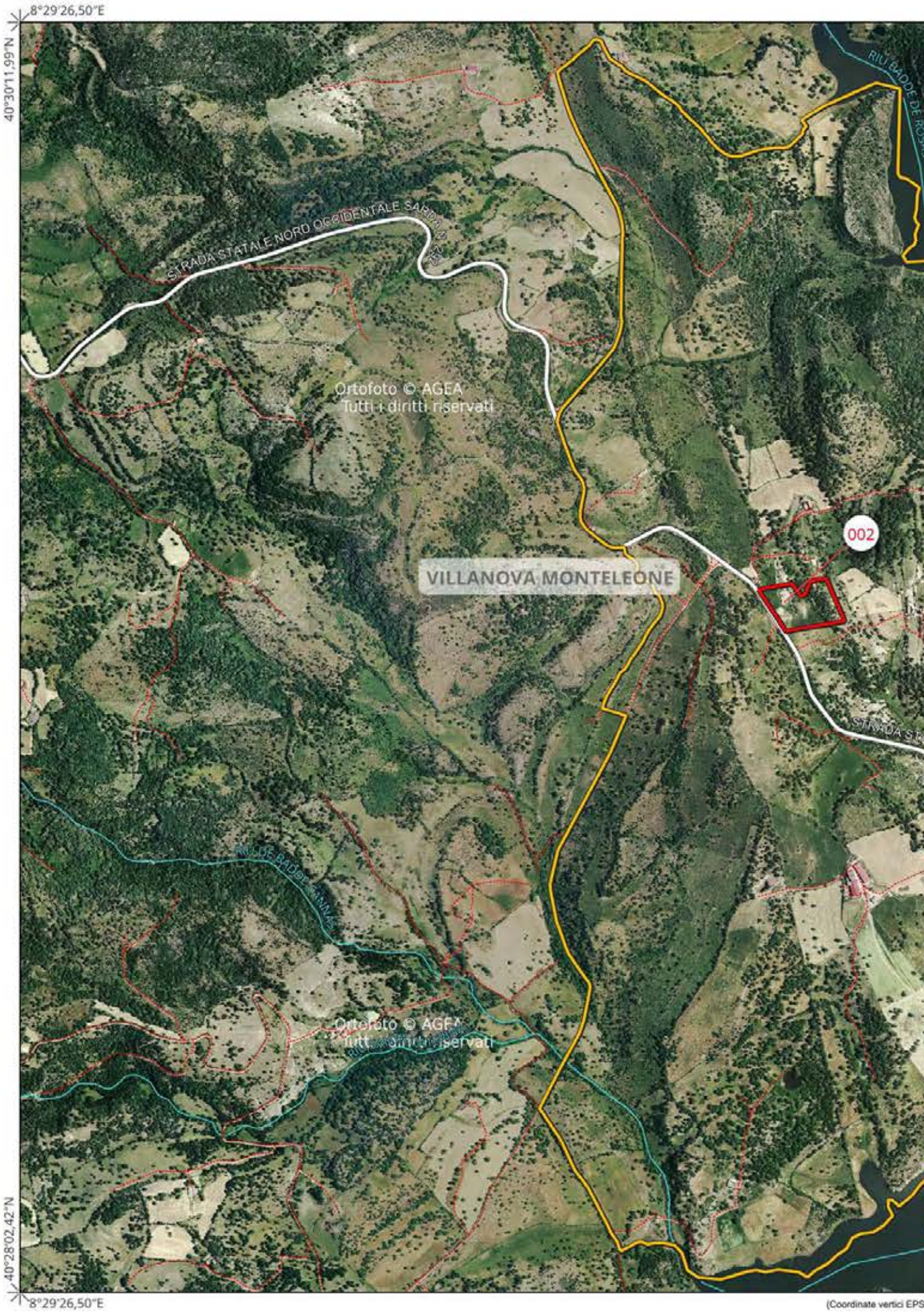
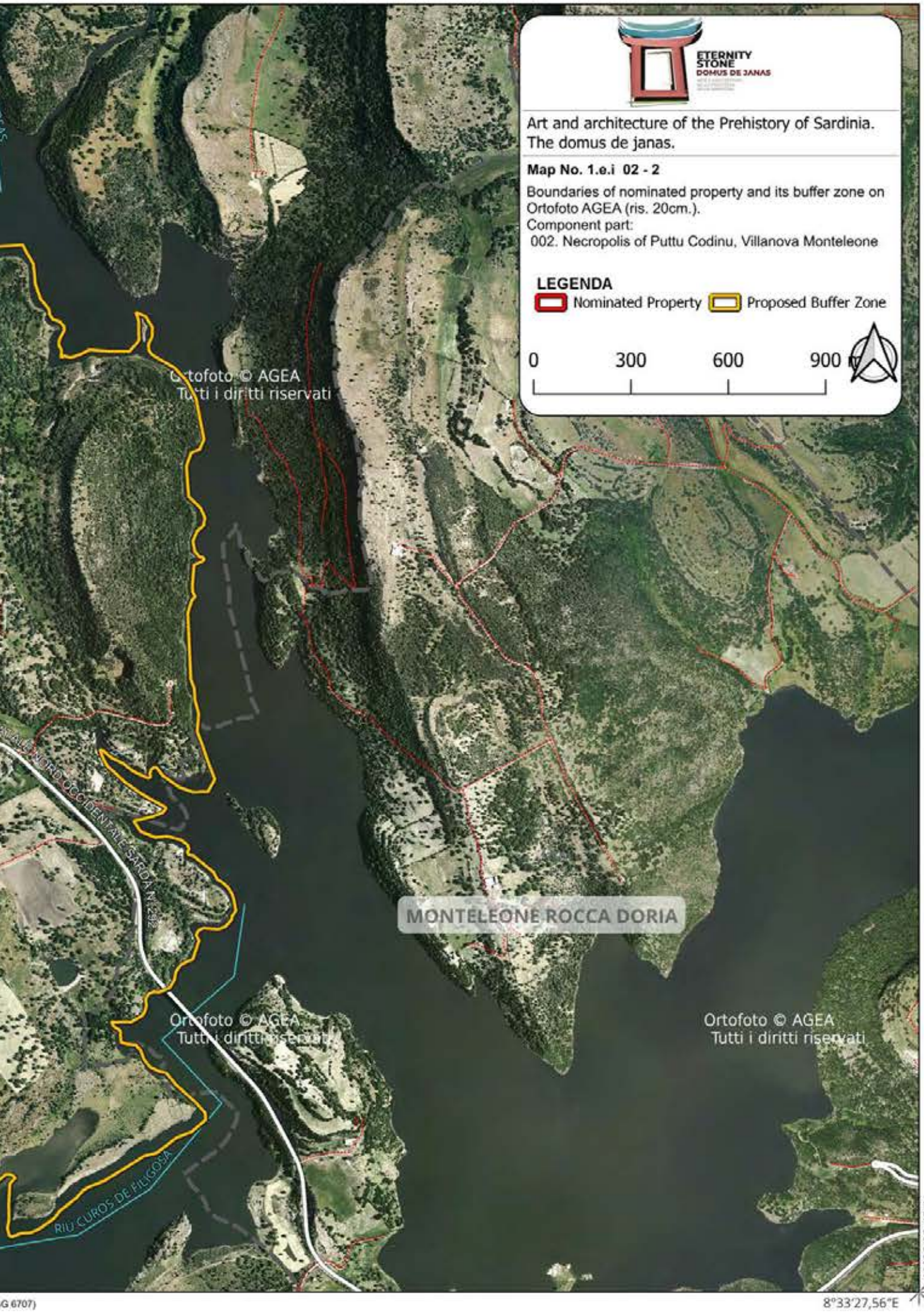
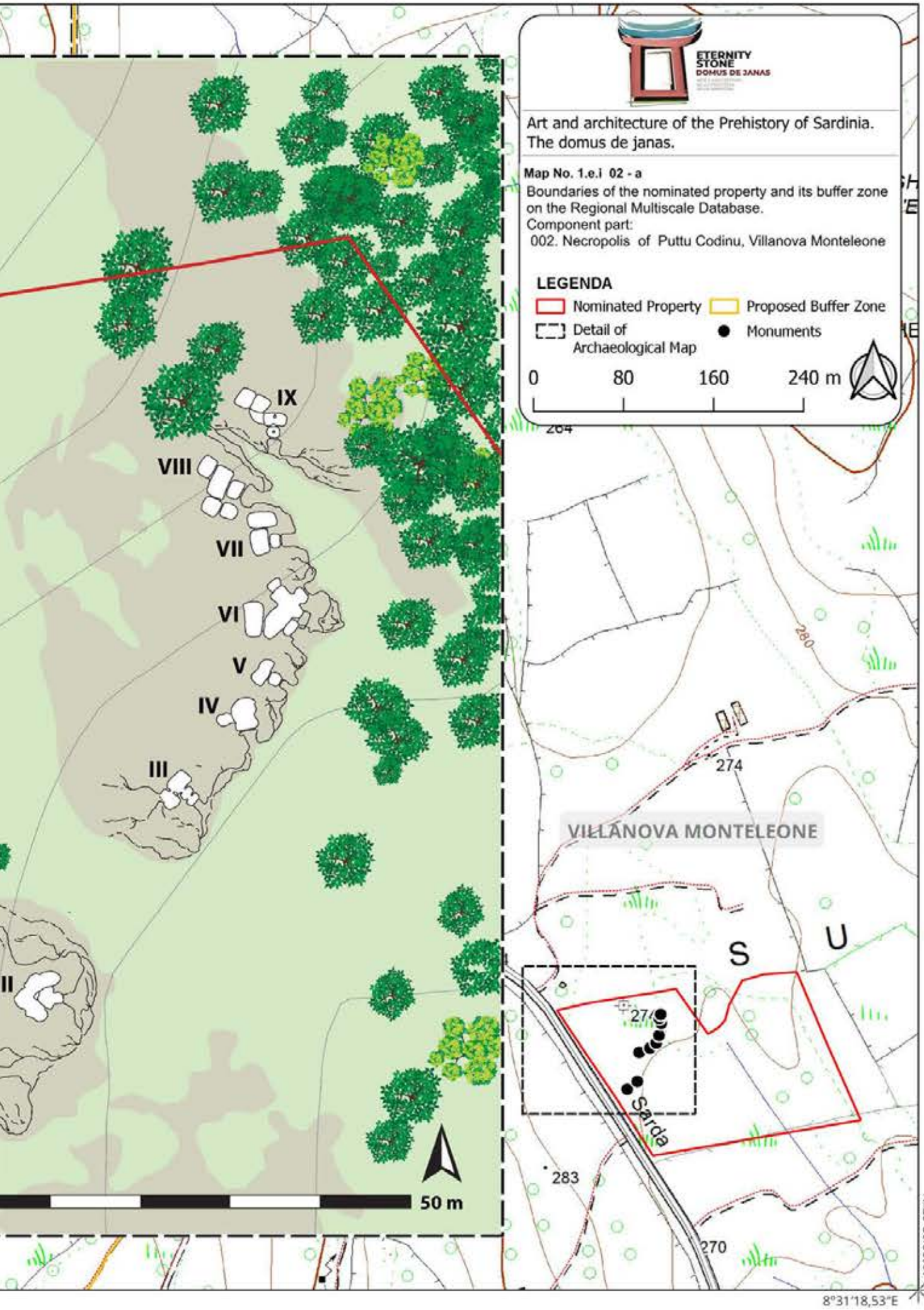
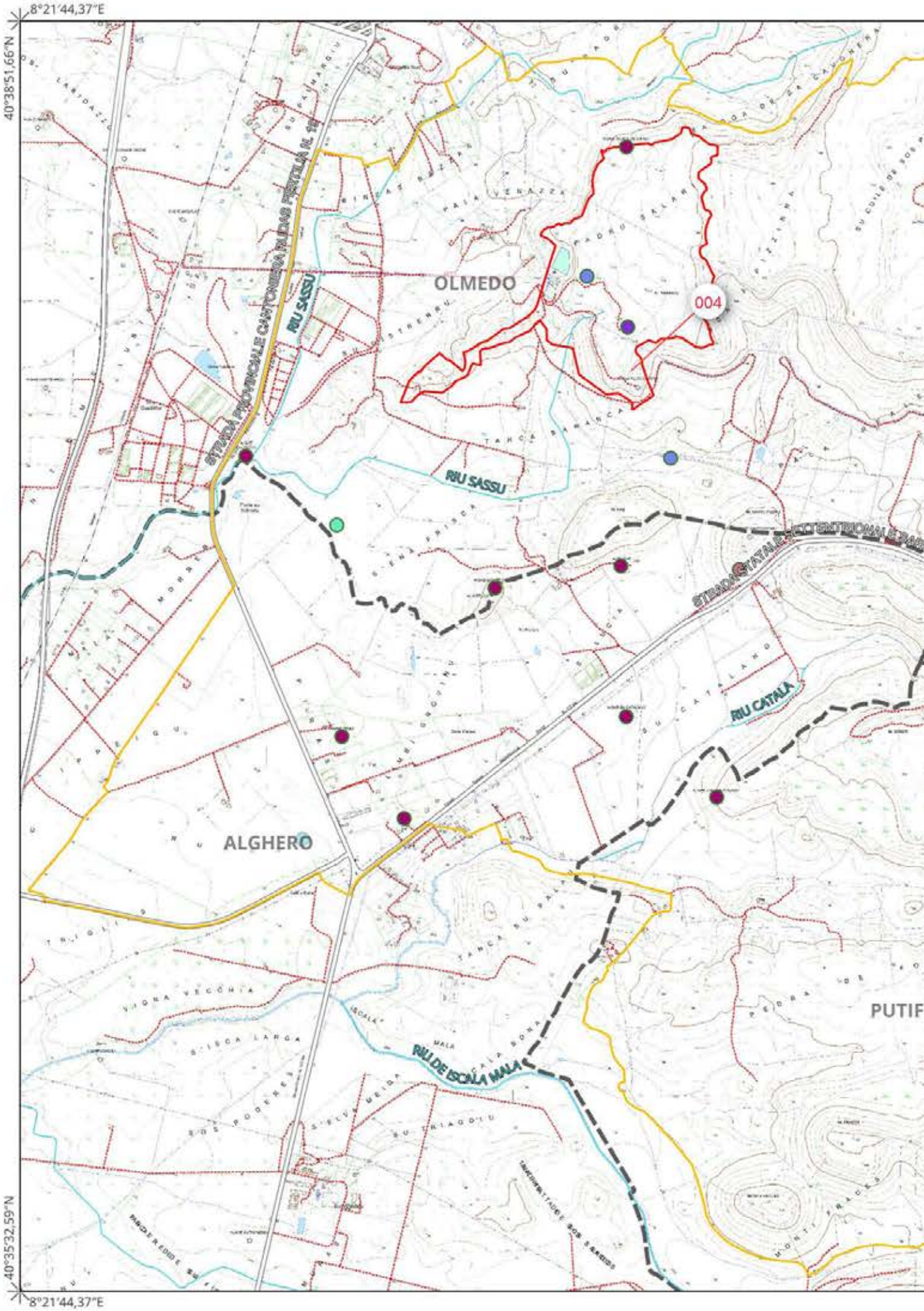
The domus de janas.
Map No. 1.e.i 02 - 1
Boundaries of nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
002. Necropolis of Puttu Codinu, Villanova Monteleone
LEGENDA
Nominated Property
Proposed Buffer Zone
Prehistoric Cultural Heritage
Domus de janas
Other Cultural Heritage
Monumento medievale
Monumento nuragico
0
300
600
900
MONTELEONE ROCCA DORIA
RIU CURROS DE FLUGOSA
TANCA DE SAS M
40°28'02,42"N
8°33'27,56"E

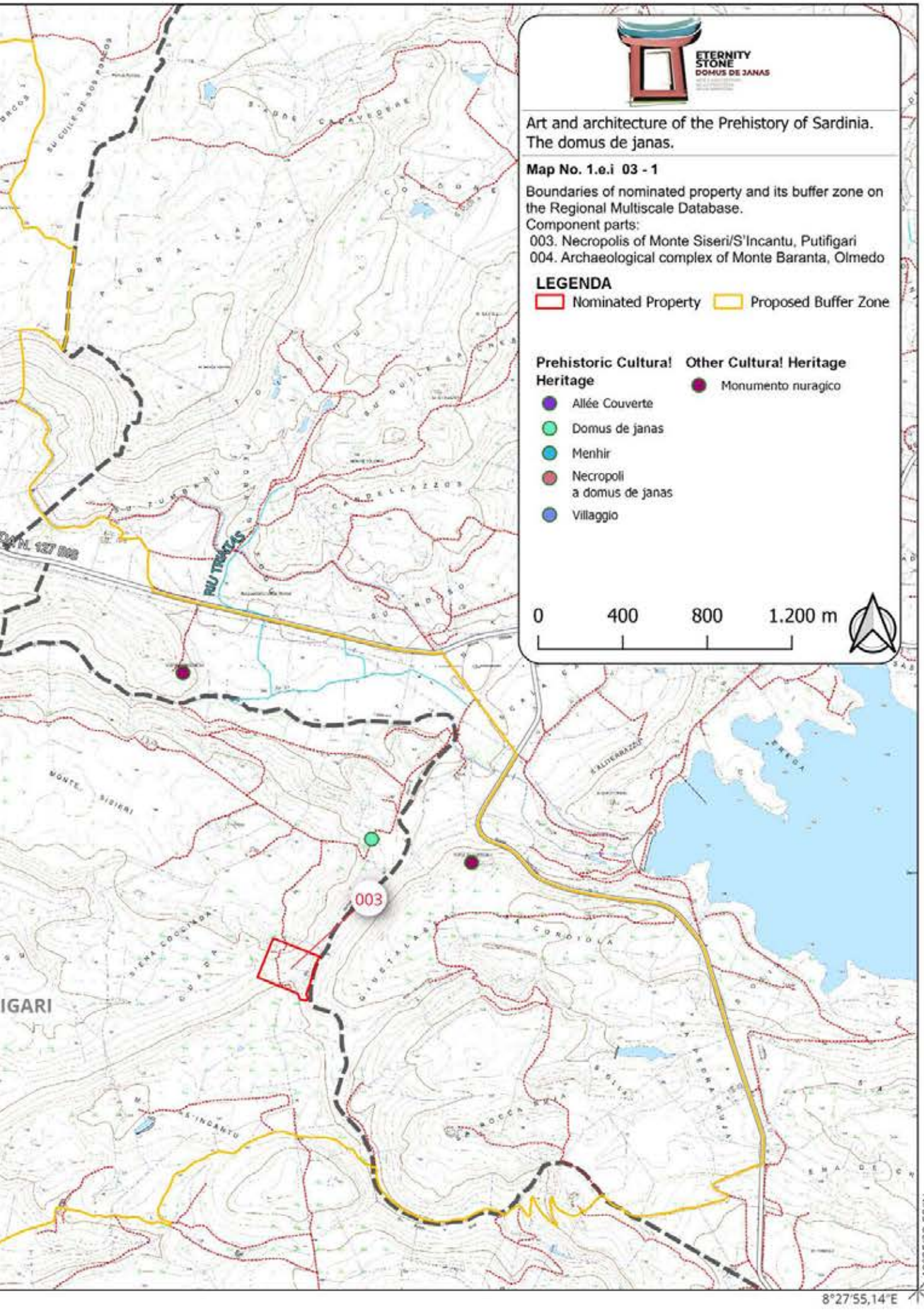

8°29'26,50"E
40°30'11,99"N
40°28'02,42"N
8°29'26,50"E
STRADA STATALE NORD OCCIDENTALE SARDA
Ortofoto © AGEA
Tutti i diritti riservati
VILLANOVA MONTELEONE
002
Ortofoto © AGEA
(Coordinate vertici EPS

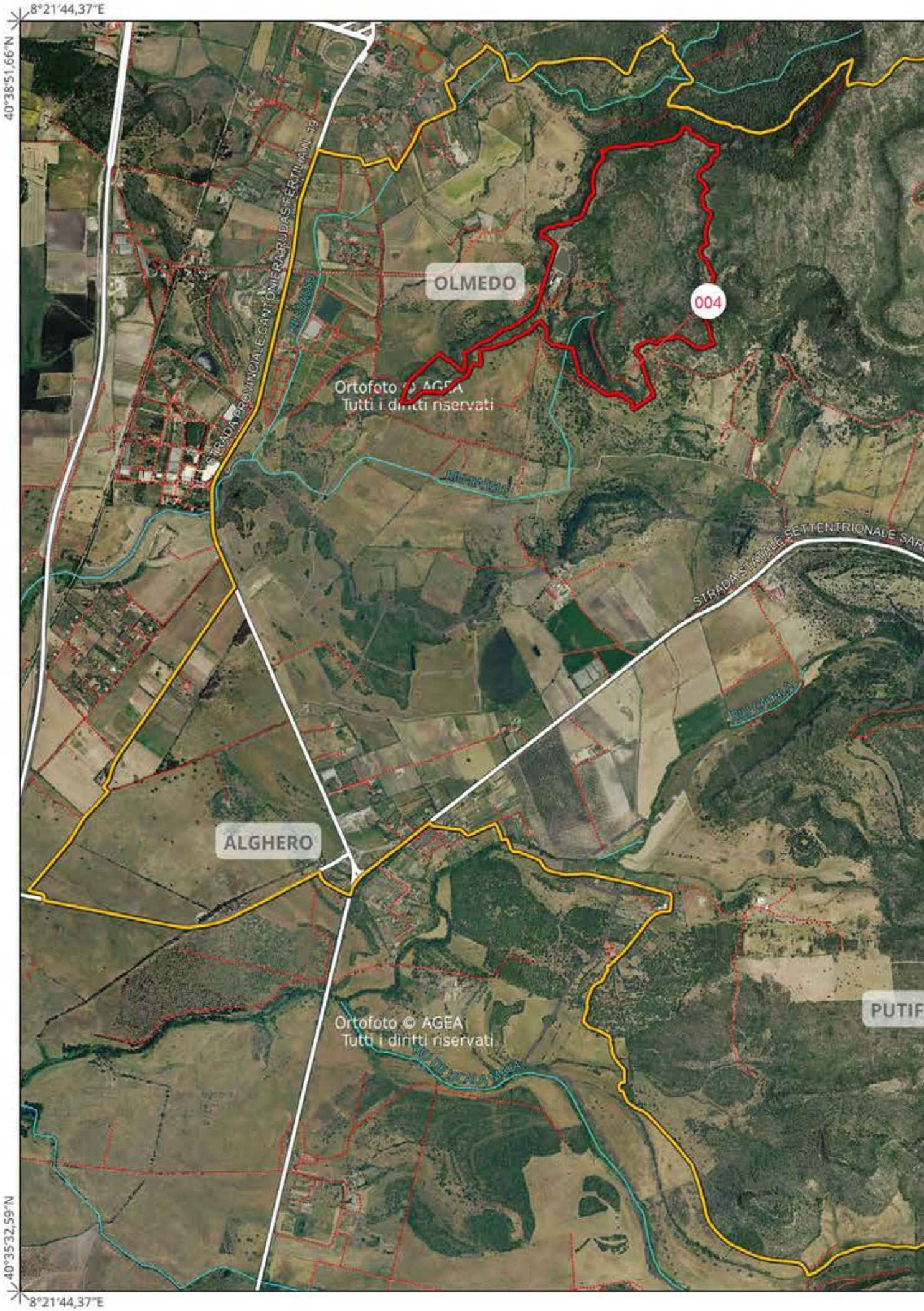

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 02 - 2
Boundaries of nominated property and its buffer zone on Ortofoto AGEA (ris. 20cm.).
Component part:
002. Necropolis of Puttu Codinu, Villanova Monteleone
LEGENDA
Nominated Property
Proposed Buffer Zone
0
300
600
900 m
Ortofoto © AGEA
Tutti i diritti riservati
MONTELEONE ROCCA DORIA
Ortofoto © AGEA
Tutti i diritti riservati
Ortofoto © AGEA
Tutti i diritti riservati
RIU CUROS DE FILIGOSA
40°28'02,42"N
8°33'27,56"E

8°30'09,13"E
40°29'42,97"N
400
Archaeological Map
3
40°29'05,67"N
307
270
271
8°30'09,13"E


ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 02 - a
Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
002. Necropolis of Puttu Codinu, Villanova Monteleone
LEGENDA
Nominated Property
Proposed Buffer Zone
Detail of Archaeological Map
Monuments
0
80
160
240 m
IX
VIII
VII
VI
V
IV
III
II
50 m
264
280
274
VILLANOVA MONTELEONE
S
U
Sarda
283
270
40°29'05,67"N
8°31'18,53"E

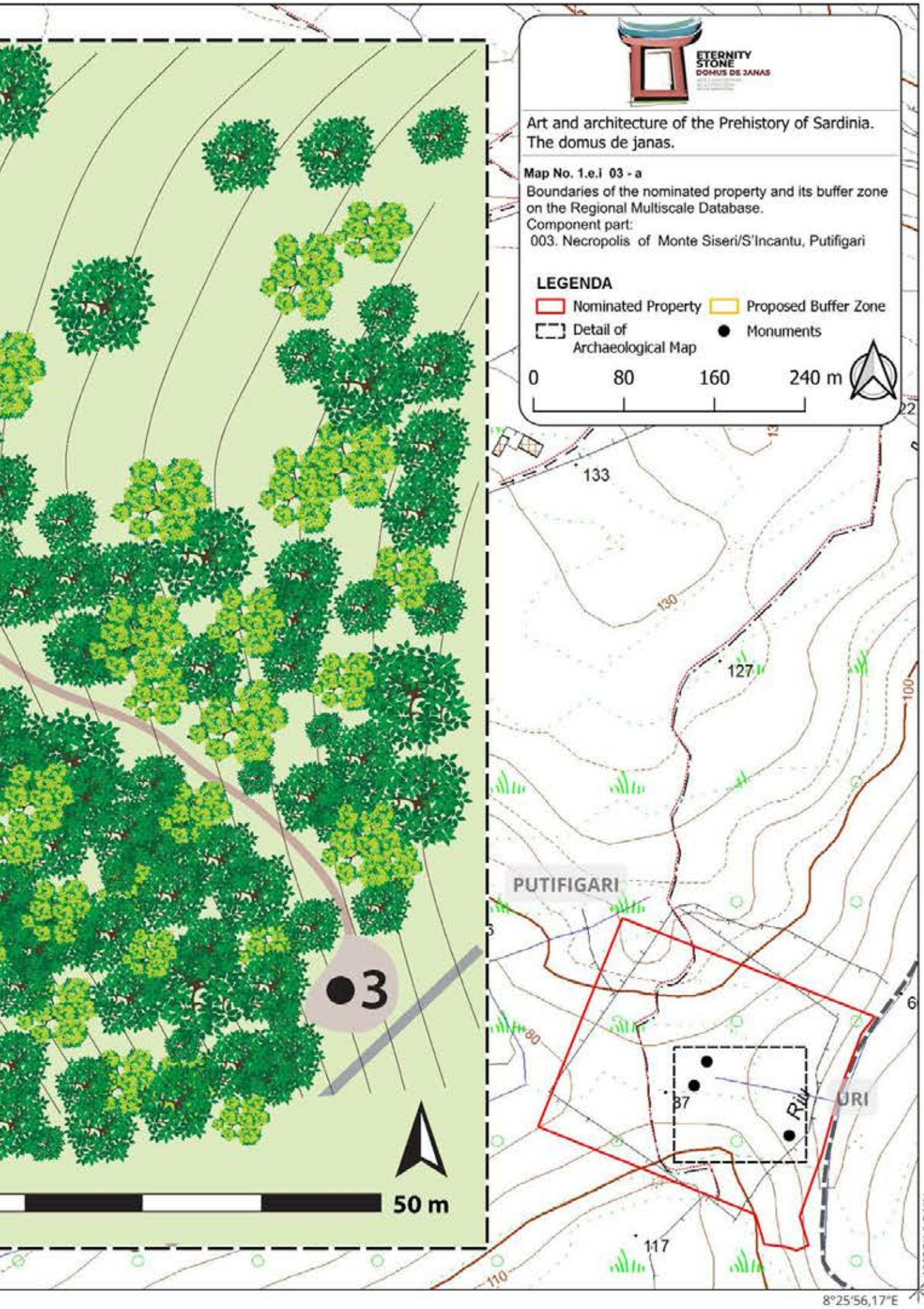

8°21'44,37"E
40°38'51,66"N
40°35'32,59"N
8°21'44,37"E
OLMEDO
004
RIU SASSU
STRADA PROVINCIALE CANTONIERA RUDAS PERTOLA N. 19
RIU SASSU
STRADA STATALE
RIU CATALA
ALGHERO
RIU DE ISCALA MALA
PUTIF

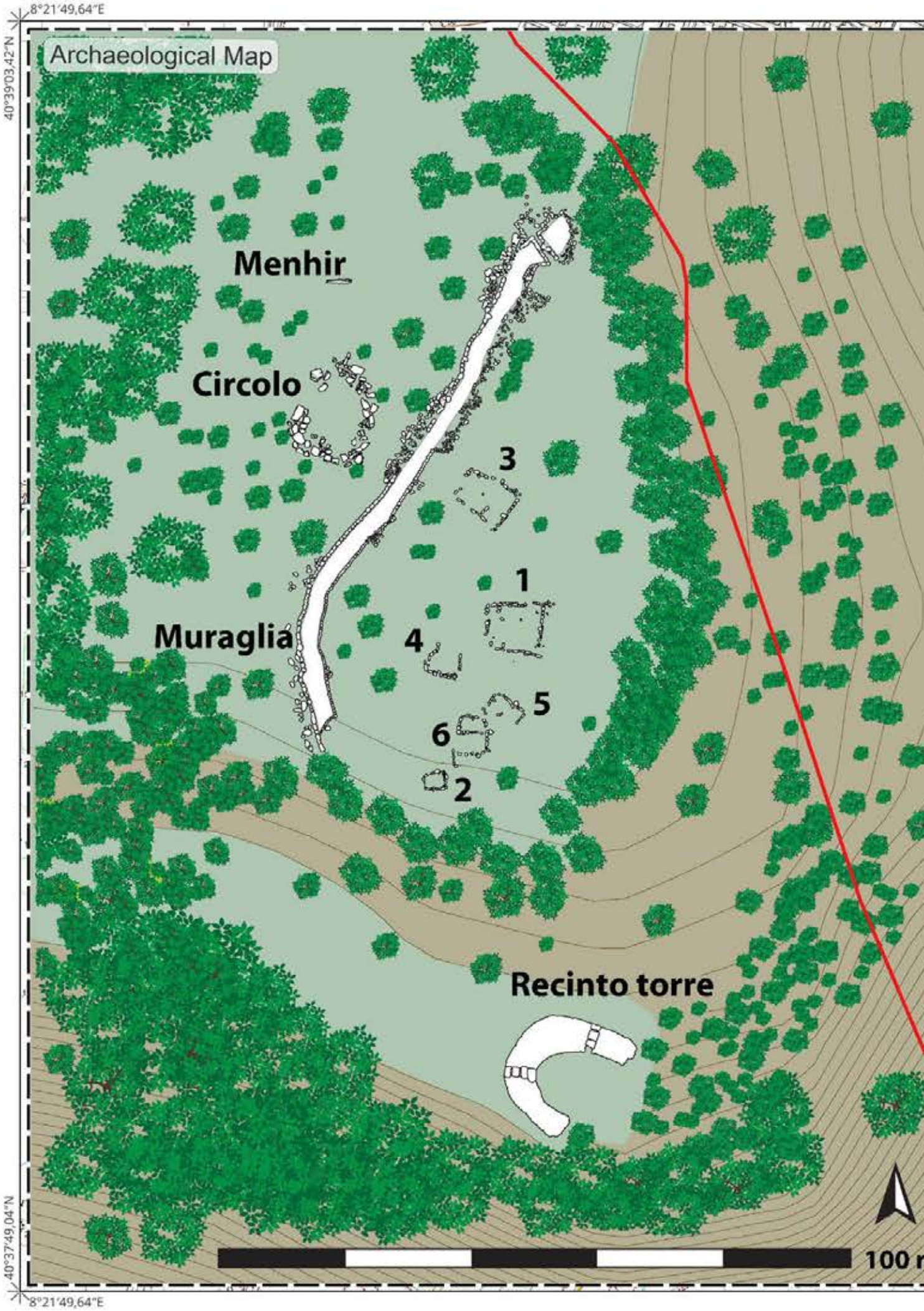

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 03 - 1
Boundaries of nominated property and its buffer zone on the Regional Multiscale Database.
Component parts:
003. Necropolis of Monte Siseri/S'Incantu, Putifigari
004. Archaeological complex of Monte Baranta, Olmedo
LEGENDA
Nominated Property
Proposed Buffer Zone
Prehistoric Cultural Heritage
Allée Couverte
Domus de janas
Menhir
Necropoli a domus de janas
Villaggio
Other Cultural Heritage
Monumento nuragico
0
400
800
1.200 m
003
RIU TRAMAS
MONTE SISIERI
IGARI
40°35'32,59"N
8°27'55,14"E

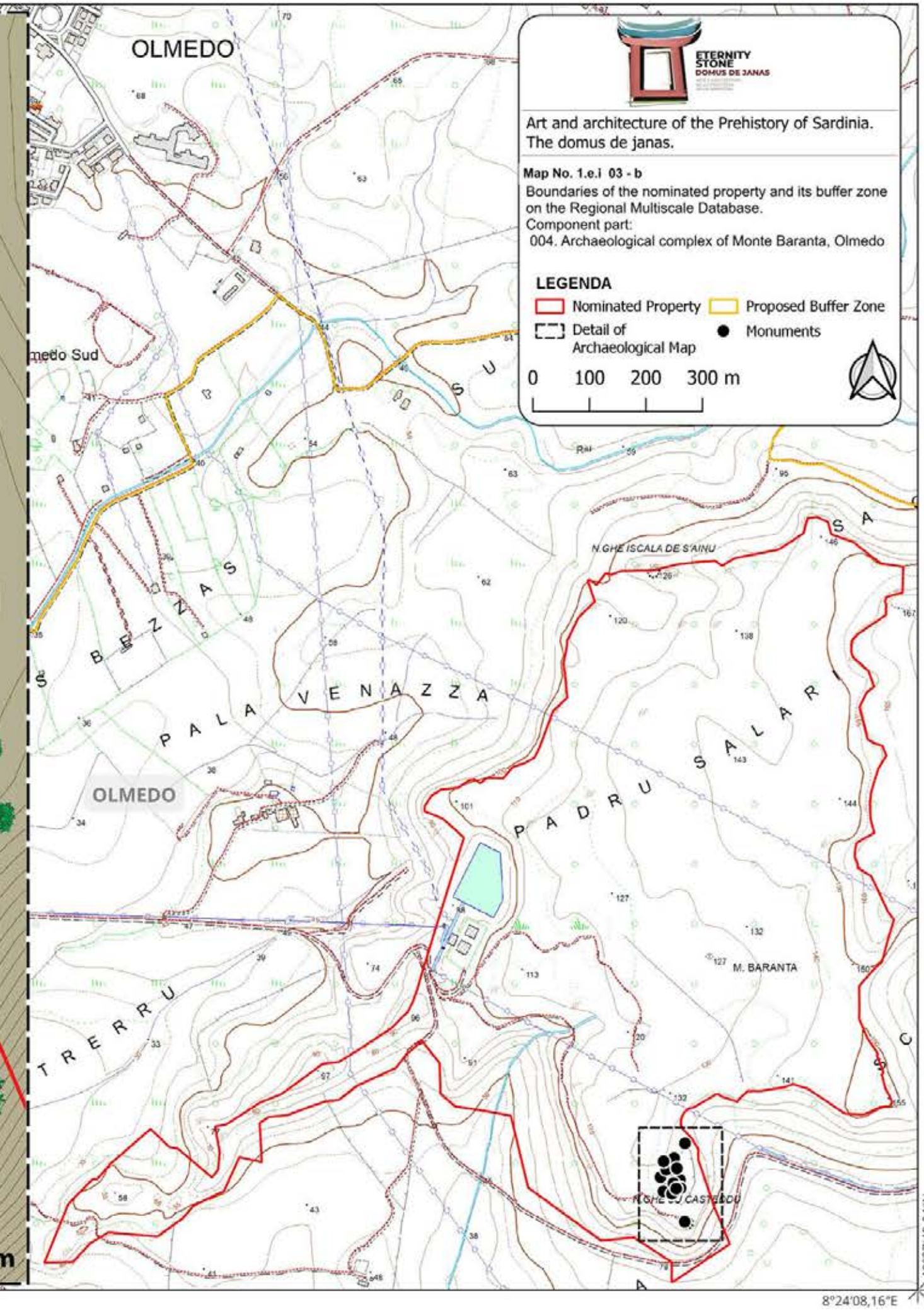

8°21'44,37"E
40°38'51,66"N
OLMEDO
004
Ortofoto © AGEA
Tutti i diritti riservati
STRADA PROVINCIALE CANTONIERA RUDAS TERTULA N. 19
STRADA STATALE SETTENTRIONALE SAR
ALGHERO
Ortofoto © AGEA
Tutti i diritti riservati
PUTIF
40°35'32,59"N
8°21'44,37"E

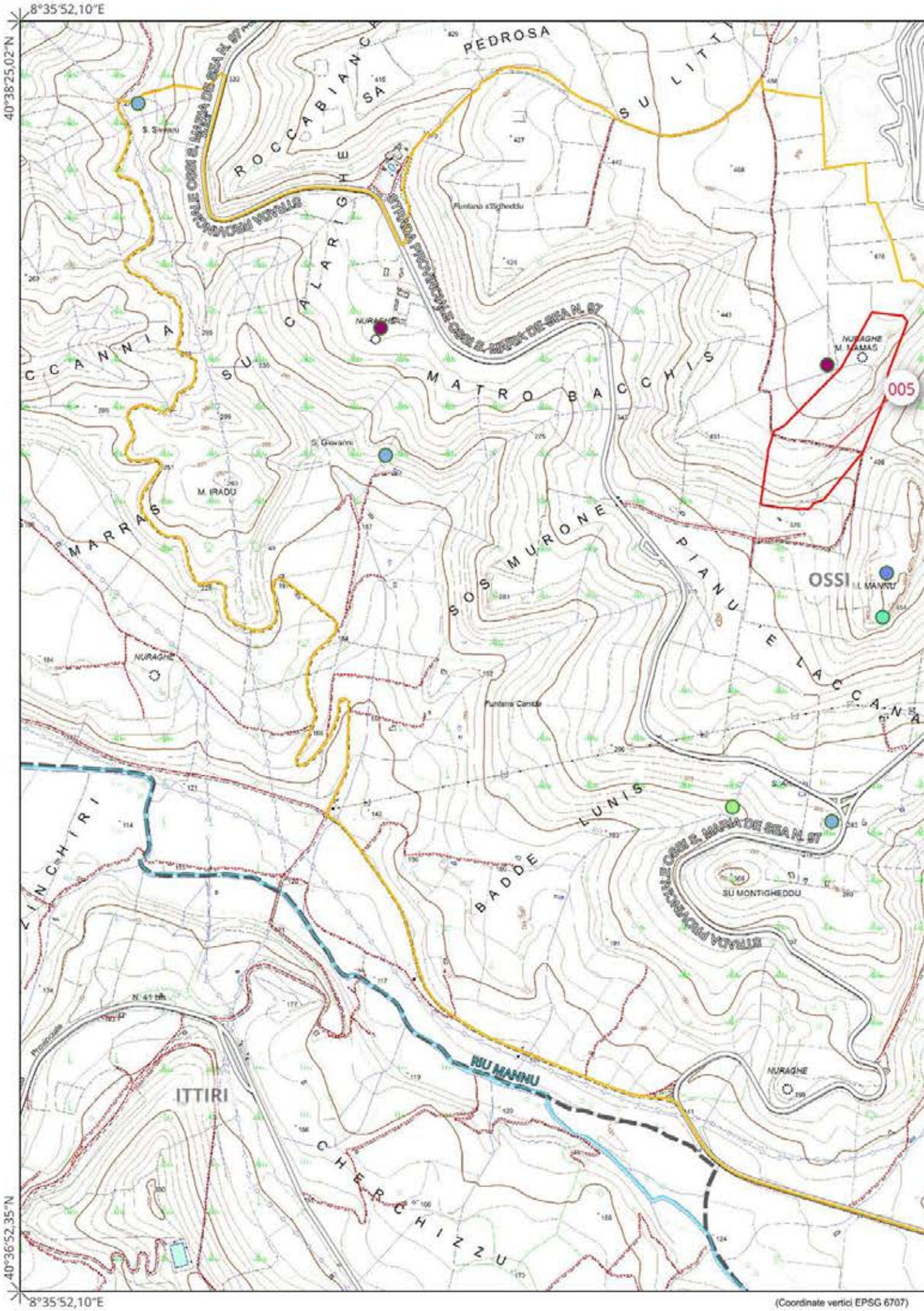
ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 03 - 2
Boundaries of nominated property and its buffer zone on Ortofoto AGEA (ris. 20cm.).
Component parts:
003. Necropolis of Monte Siseri/S'Incantu, Putifigari
004.Archaeological complex of Monte Baranta, Olmedo
LEGENDA
Nominated Property
Proposed Buffer Zone
0
400
800
1.200 m
Ortofoto © AGEA
Tutti i diritti riservati
003
Ortofoto © AGEA
Tutti i diritti riservati
Ortofoto © AGEA
Tutti i diritti riservati
40°35'32,59"N
8°27'55,14"E

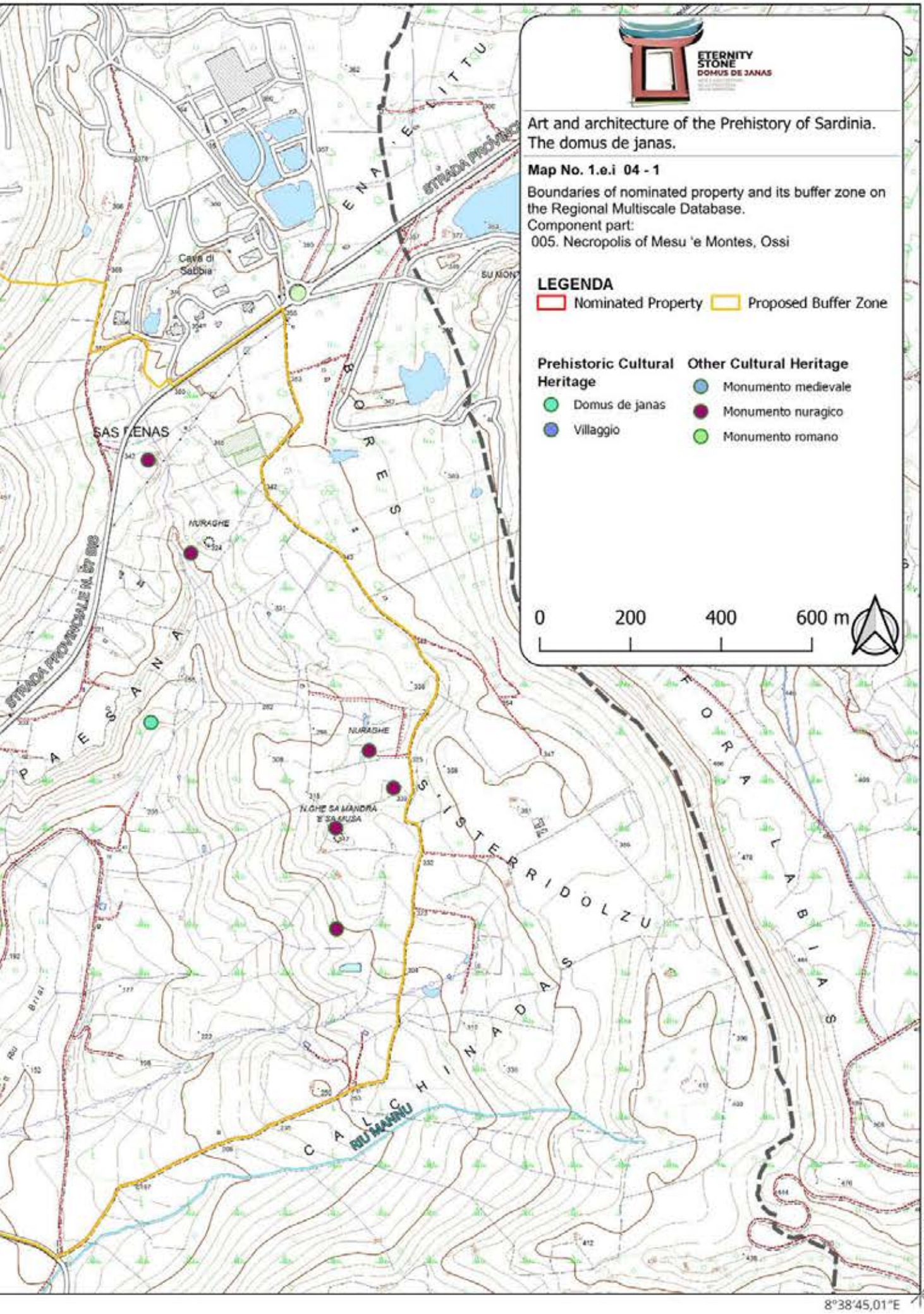
8°24'46,92"E
40°36'54,02"N
103
Archaeological Map
1
2
40°36'16,84"N
8°24'46,92"E
51
47

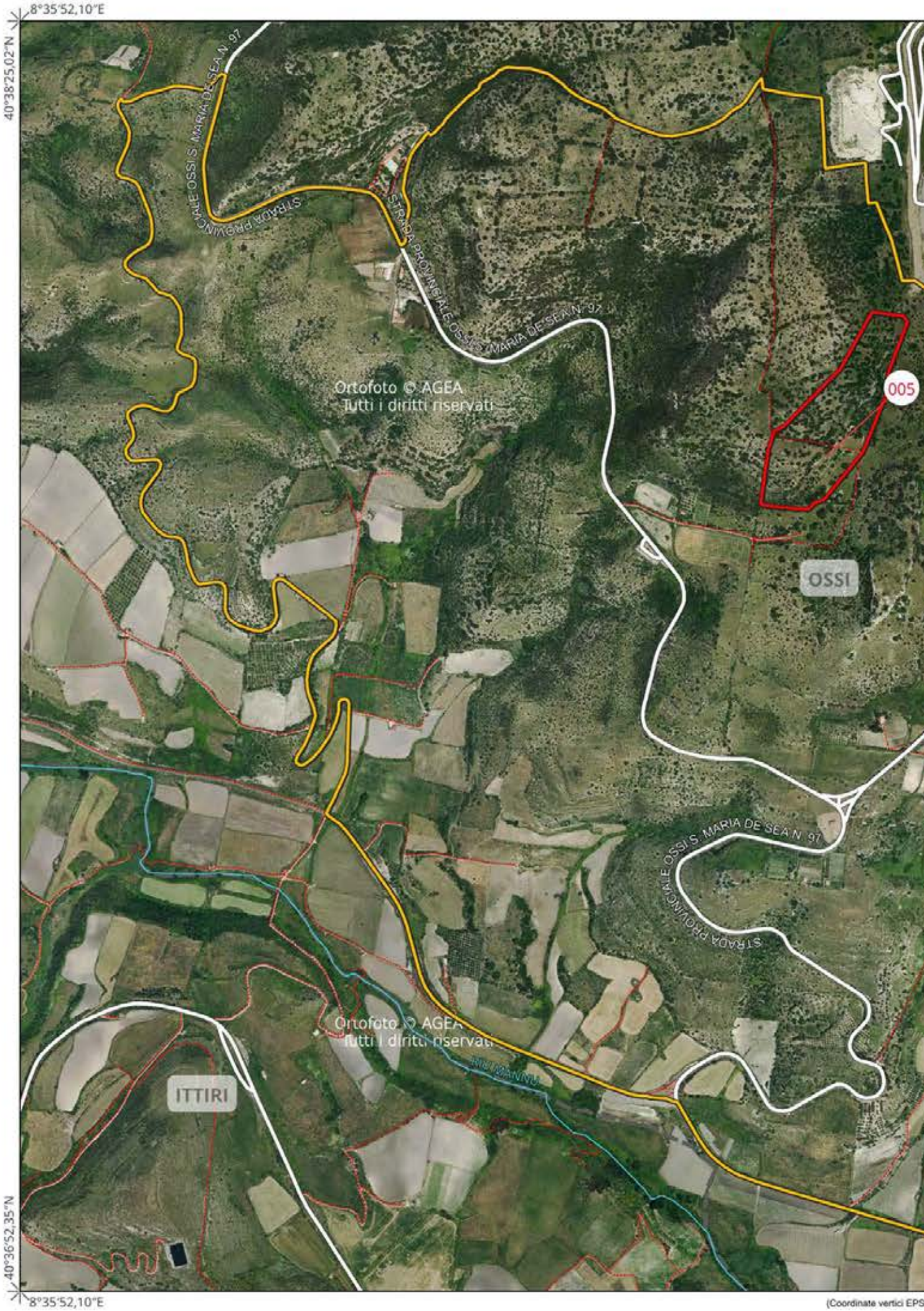

ETERNITY STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 03 - a
Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
003. Necropolis of Monte Siseri/S'Incantu, Putifigari
LEGENDA
Nominated Property
Proposed Buffer Zone
Detail of Archaeological Map
Monuments
0 80 160 240 m
133
130
127
100
PUTIFIGARI
80
87
URI
117
110
3
50 m
40°36'16,84"N
8°25'56,17"E

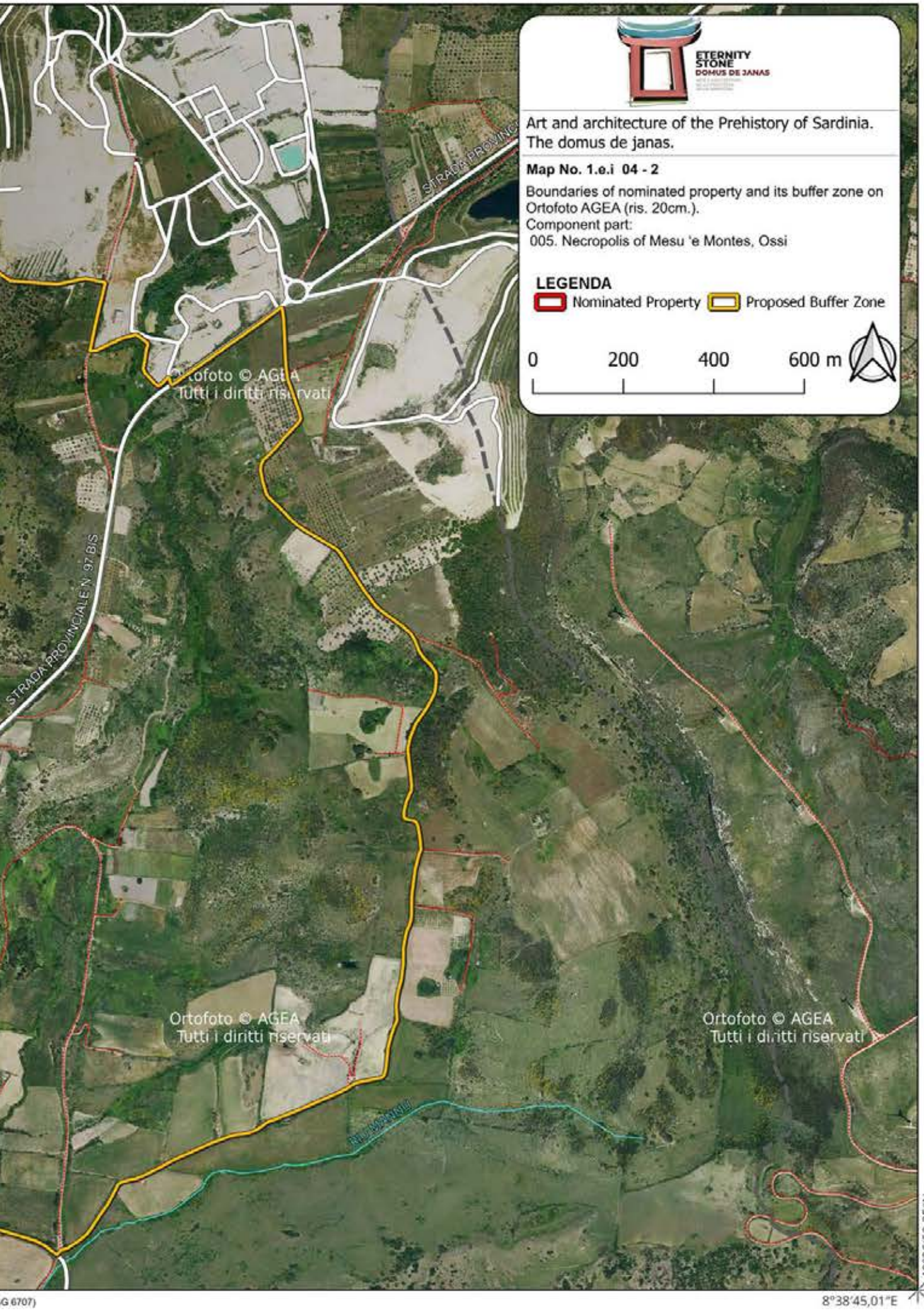

8°21'49,64"E
40°39'03,42"N
Archaeological Map
Menhir
Circolo
3
1
Muraglia
4
5
6
2
Recinto torre
40°37'49,04"N
8°21'49,64"E
100 m

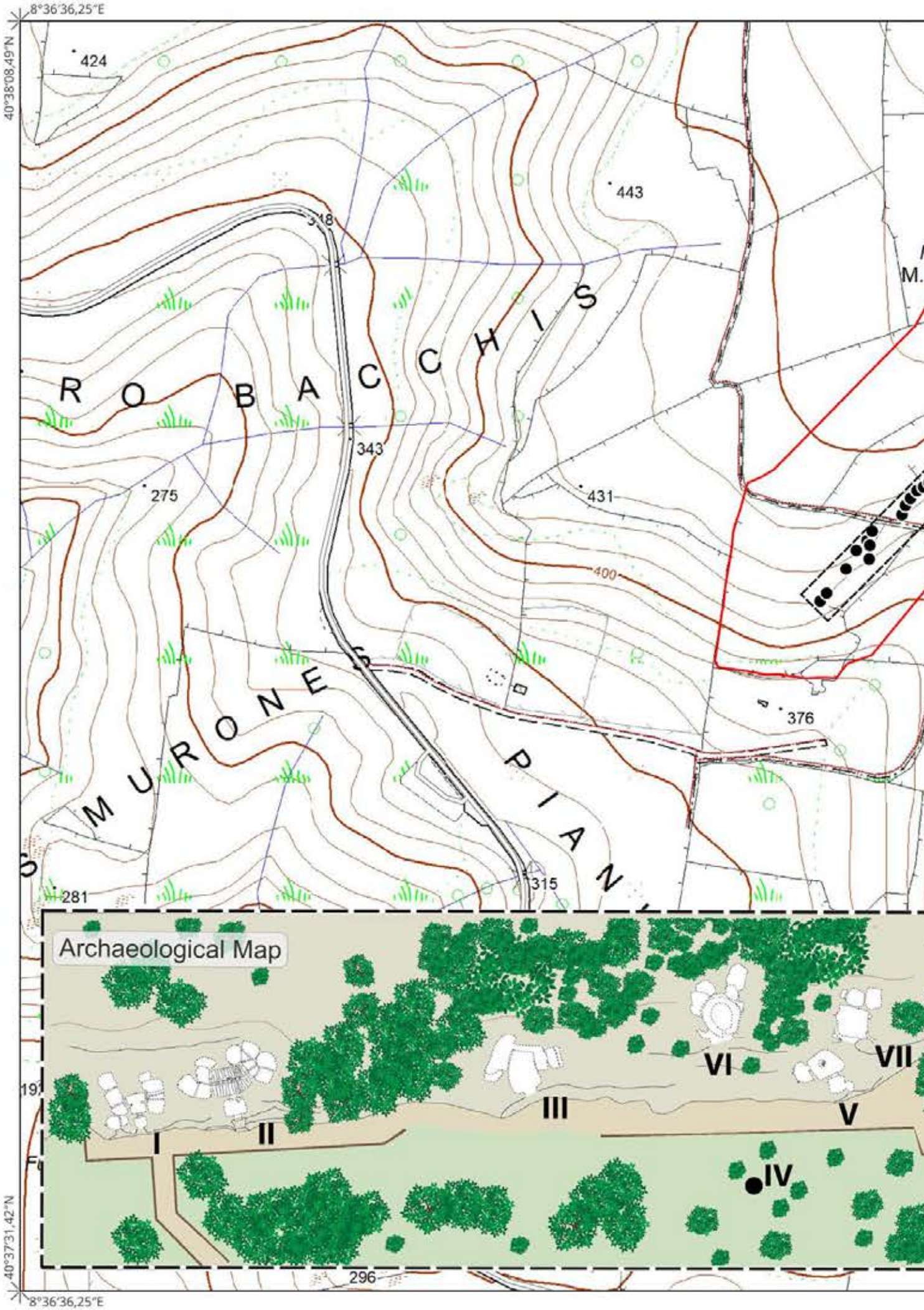

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 03 - b
Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
004. Archaeological complex of Monte Baranta, Olmedo
LEGENDA
Nominated Property
Proposed Buffer Zone
Detail of Archaeological Map
Monuments
0 100 200 300 m
OLMEDO
medo Sud
S U B E N Z A S
P A L A V E N A Z Z A
P A D R U S A L A R
T R E R R U
N.GHE ISCALA DE S'AINU
M. BARANTA
N.GHE SU CASTELLU
OLMEDO
40°37'49,04"N
8°24'08,16"E

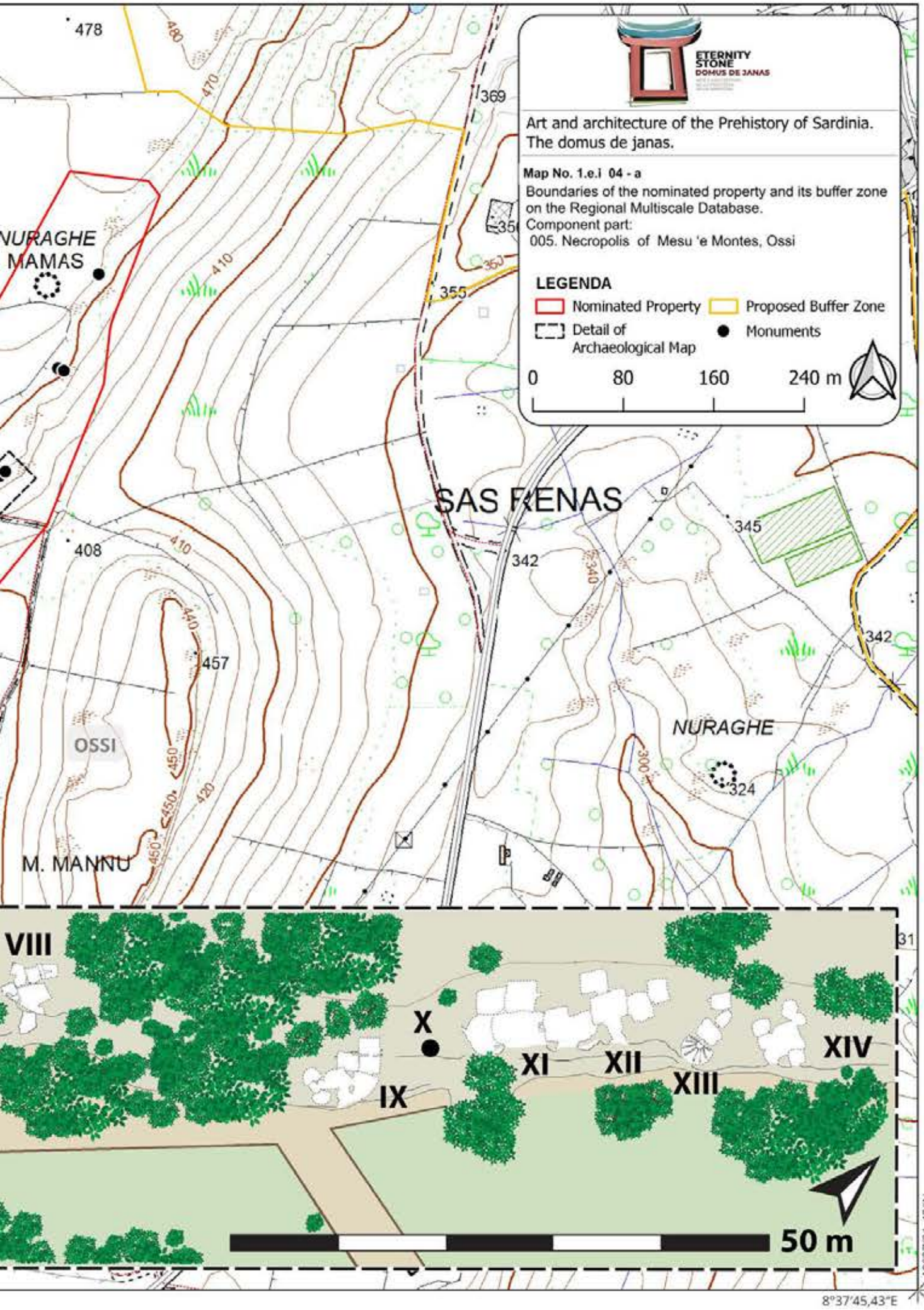

8°35'52,10"E
40°38'25,02"N
40°36'52,35"N
8°35'52,10"E
(Coordinate vertici EPSG 6707)
005
OSSI
ITTIRI
NURAGHE
NURAGHE M. MAMAS
NURAGHE
NURAGHE
S. Giovanni
M. IRADU
Fontana Canale
SU MONTIGHEDDU
RIU MANNU
PEDROSA
ROCCABIANCA
SU LITTU
SU CALARIGHE
MATRO BACCHIS
SOS MURONE
PIANU E LACCANA
MARRAS
LUNIS
BADDE
CHERCHIZZU
LINCHIRI
CANNIA
STRADA PROVINCIALE OSSI E MARIA DE SEA N. 97
STRADA PROVINCIALE OSSI E MARIA DE SEA N. 97
STRADA PROVINCIALE OSSI E MARIA DE SEA N. 97
N. 41 bis
Provinciale

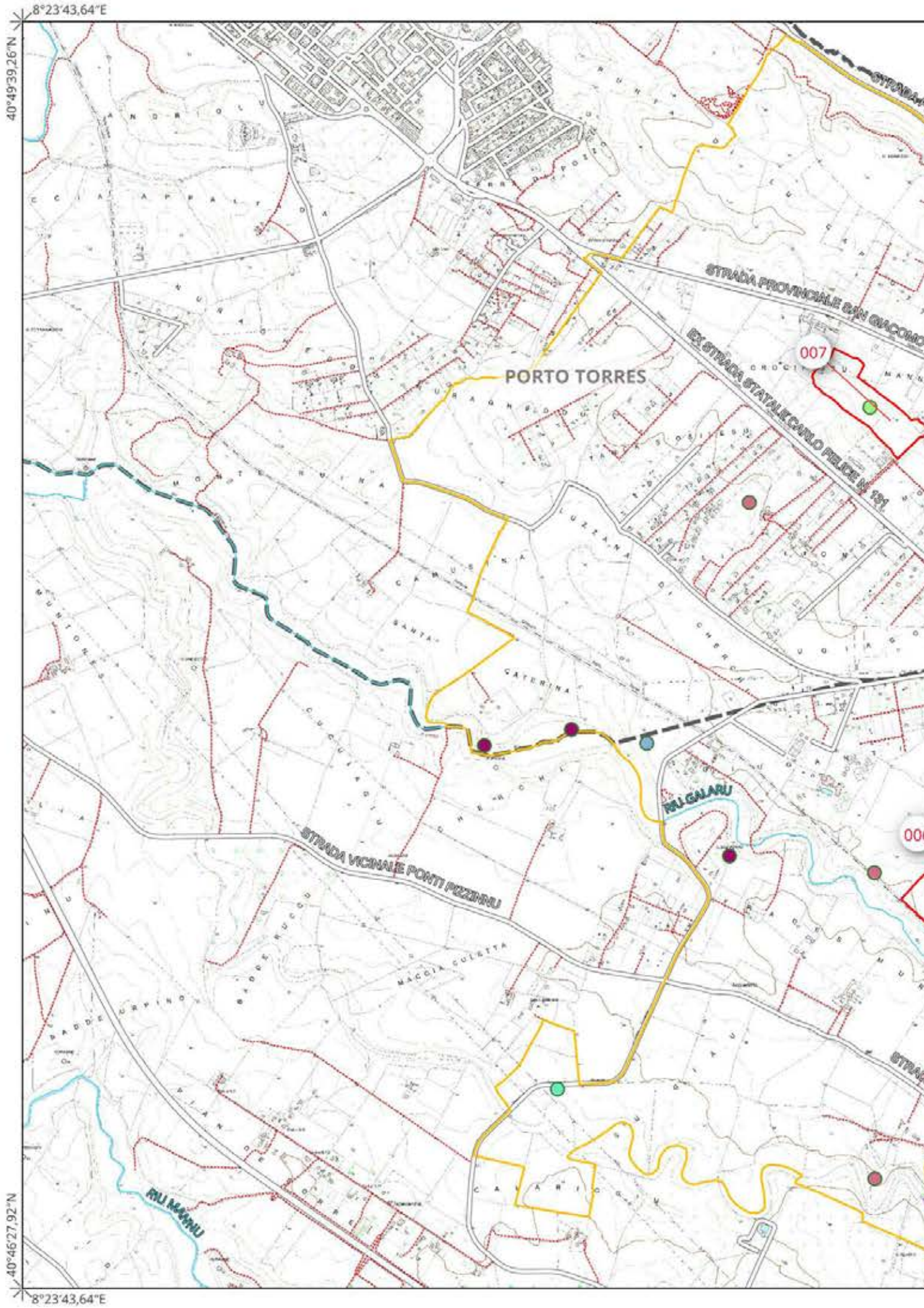

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 04 - 1
Boundaries of nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
005. Necropolis of Mesu 'e Montes, Ossi
LEGENDA
Nominated Property
Proposed Buffer Zone
Prehistoric Cultural Heritage
Domus de janas
Villaggio
Other Cultural Heritage
Monumento medievale
Monumento nuragico
Monumento romano
0
200
400
600 m
SAS LENAS
NURAGHE
NURAGHE
N.GHE SA MANDRA E SA MUSA
STRADA PROVINCIALE N. EP 69
Cava di Sabbia
RIU MANNU
40°36'52,35"N
8°38'45,01"E

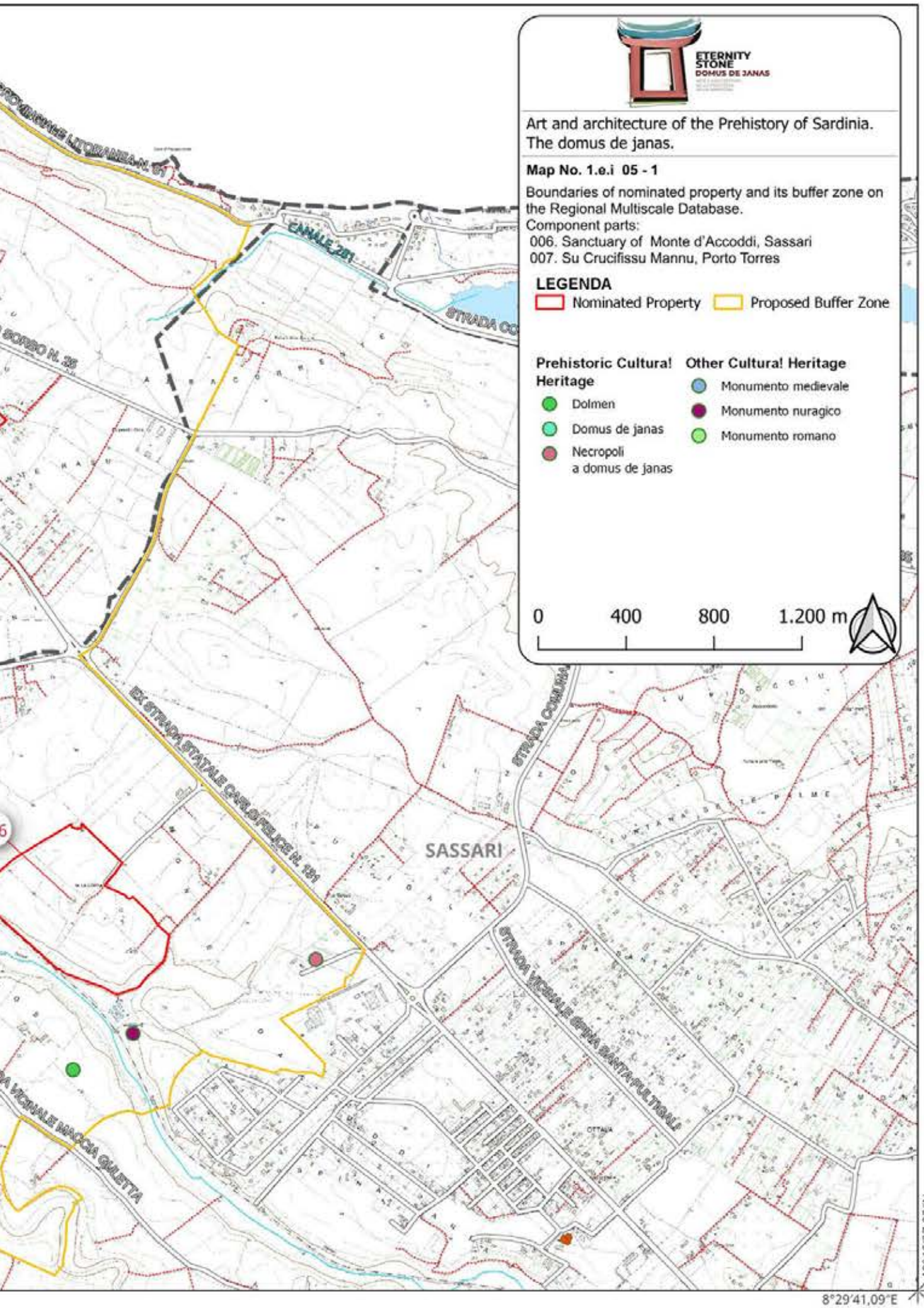

8°35'52,10"E
40°38'25,02"N
STRADA PROVINCIALE OSSI S. MARIA DE SEA N. 97
STRADA PROVINCIALE OSSI S. MARIA DE SEA N. 97
Ortofoto © AGEA
Tutti i diritti riservati
005
OSSI
STRADA PROVINCIALE OSSI S. MARIA DE SEA N. 97
Ortofoto © AGEA
Tutti i diritti riservati
ITTIRI
40°36'52,35"N
8°35'52,10"E
(Coordinate vertici EPS

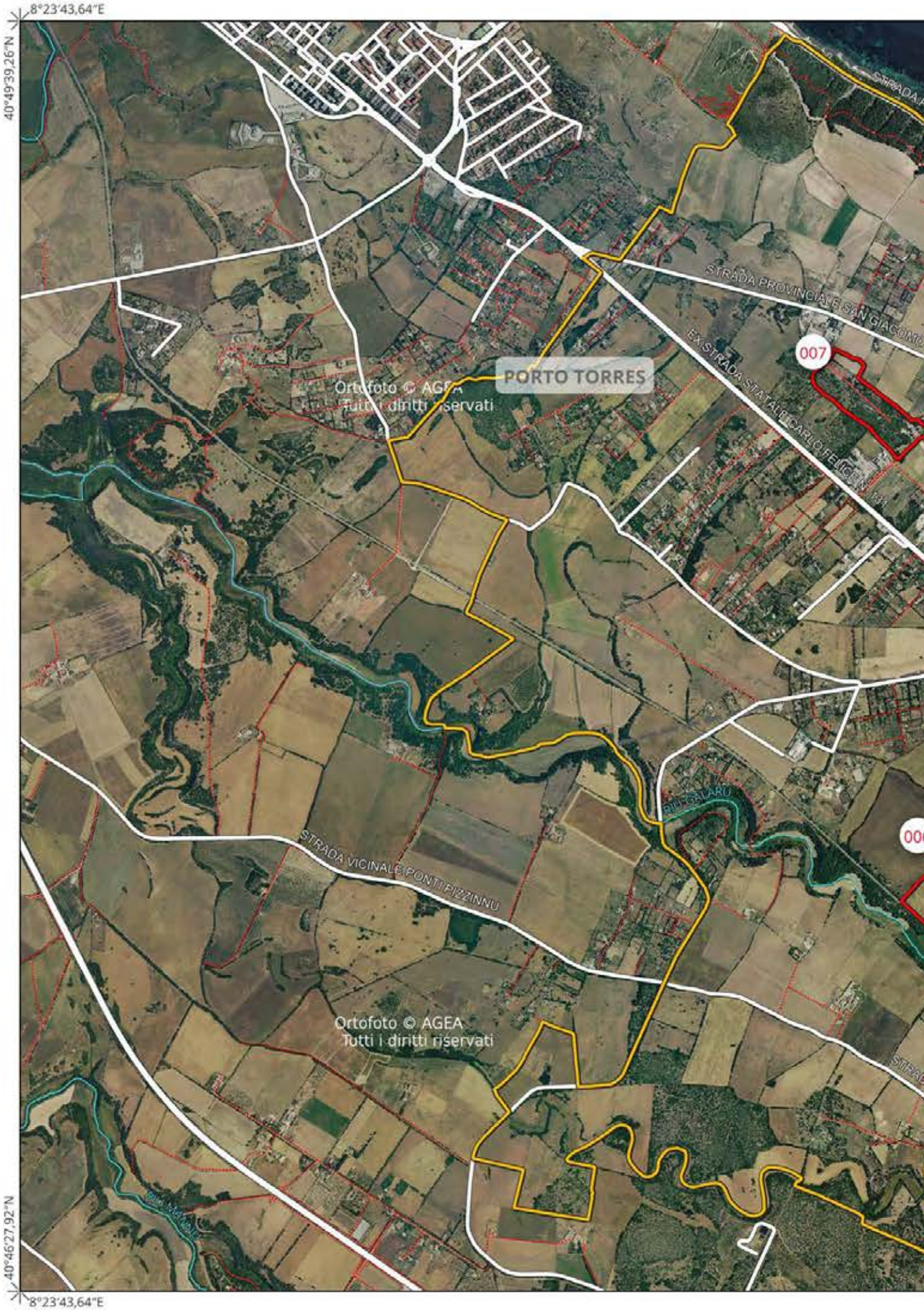

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 04 - 2
Boundaries of nominated property and its buffer zone on Ortofoto AGEA (ris. 20cm.).
Component part:
005. Necropolis of Mesu 'e Montes, Ossi
LEGENDA
Nominated Property
Proposed Buffer Zone
0
200
400
600 m
STRADA PROVINCIALE N° 97 BIS
Ortofoto © AGEA
Tutti i diritti riservati
Ortofoto © AGEA
Tutti i diritti riservati
Ortofoto © AGEA
Tutti i diritti riservati
RIU MANNU
40°36'52,35"N
8°38'45,01"E

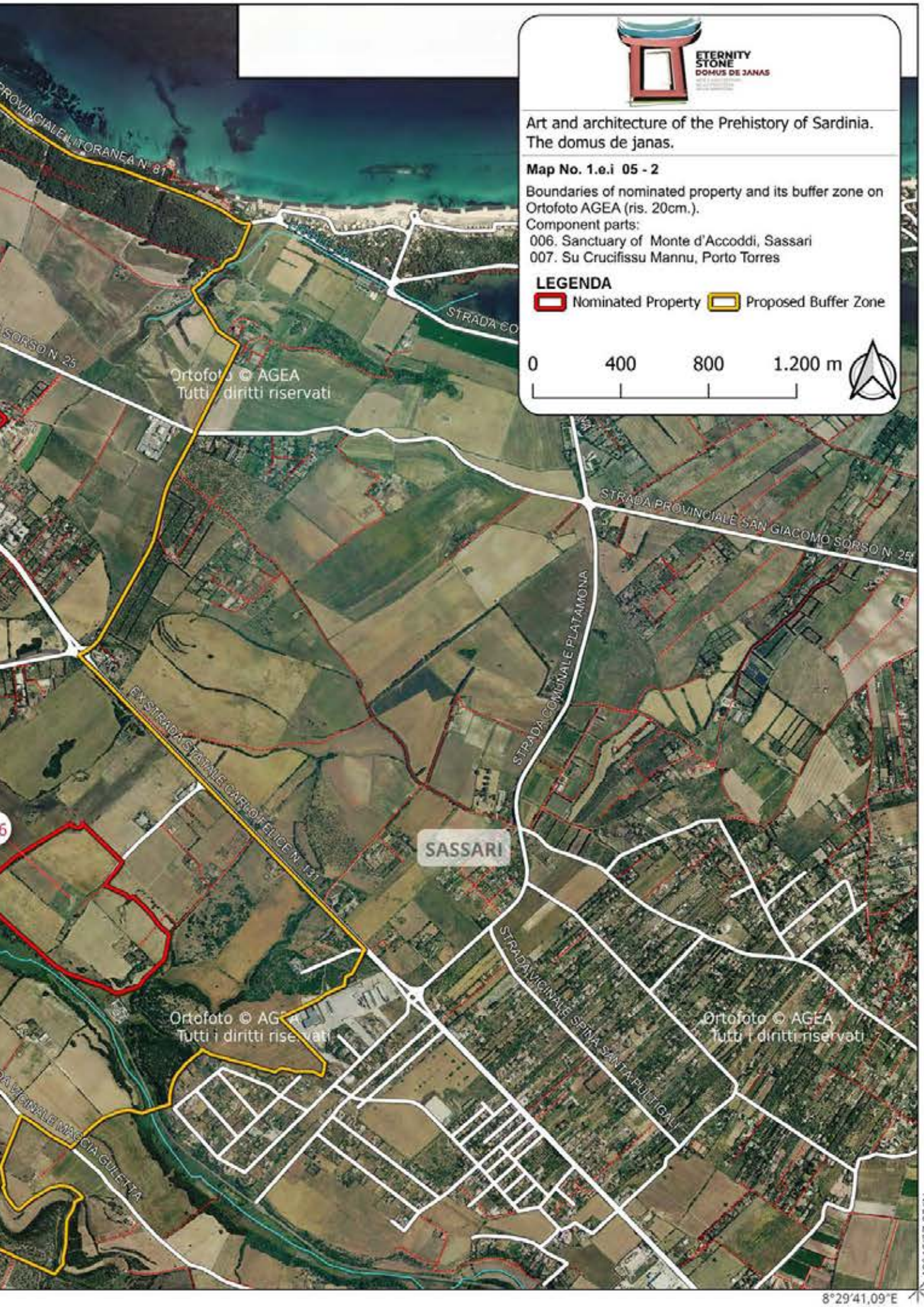

8°36'36,25"E
40°38'08,49"N
424
443
318
343
275
431
400
376
281
315
R O B A C C H I S
M U R O N E
P I A N
Archaeological Map
I
II
III
IV
V
VI
VII
40°37'31,42"N
296
8°36'36,25"E

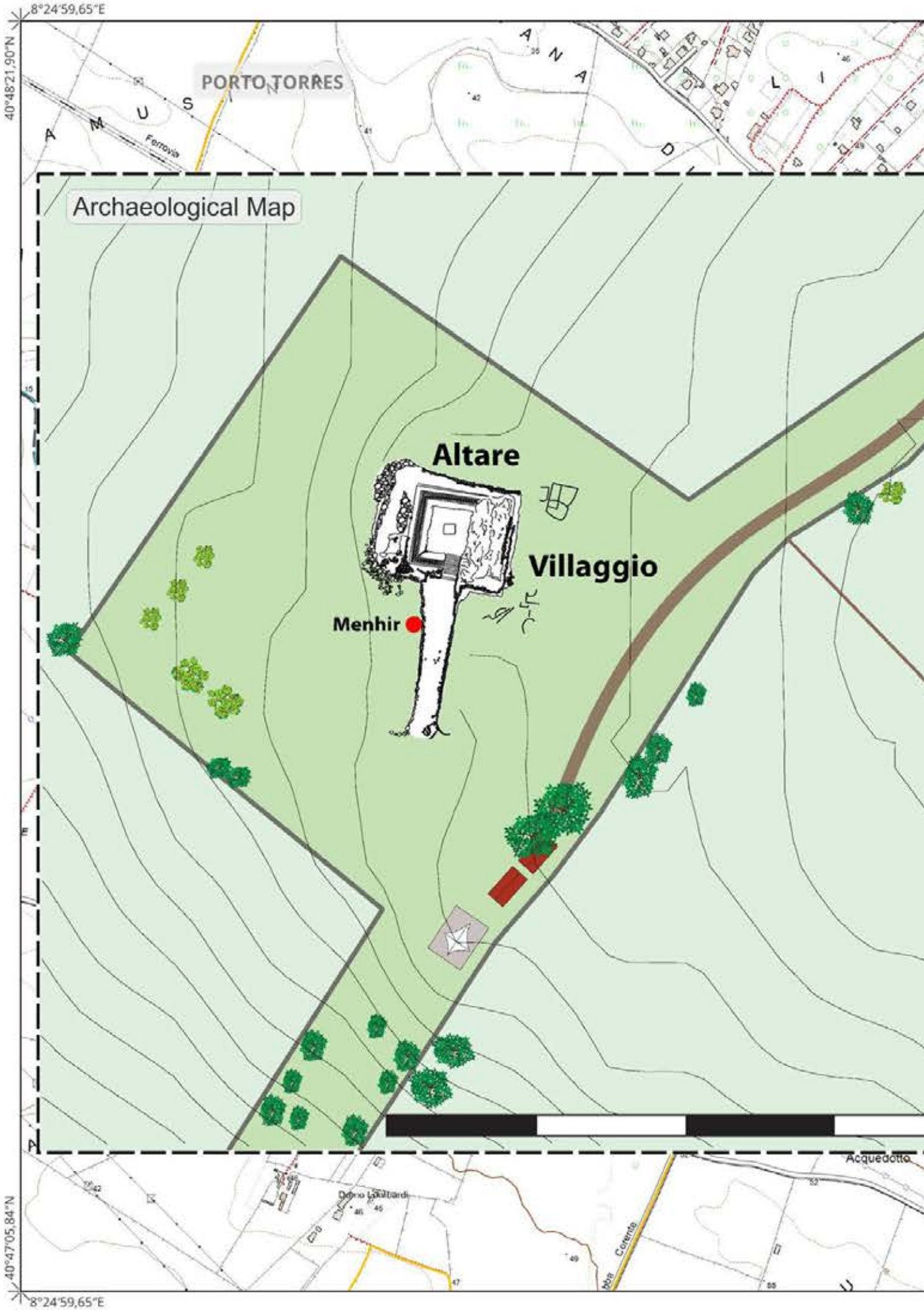

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 04 - a
Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
005. Necropolis of Mesu 'e Montes, Ossi
LEGENDA
Nominated Property
Proposed Buffer Zone
Detail of Archaeological Map
Monuments
0 80 160 240 m
NURAGHE MAMAS
SAS RENAS
NURAGHE
OSSI
M. MANNU
478
480
470
369
410
355
350
408
345
342
340
457
440
450
420
324
300
VIII
X
XI
XII
XIII
XIV
IX
31
50 m
40°37'31,42"N
8°37'45,43"E

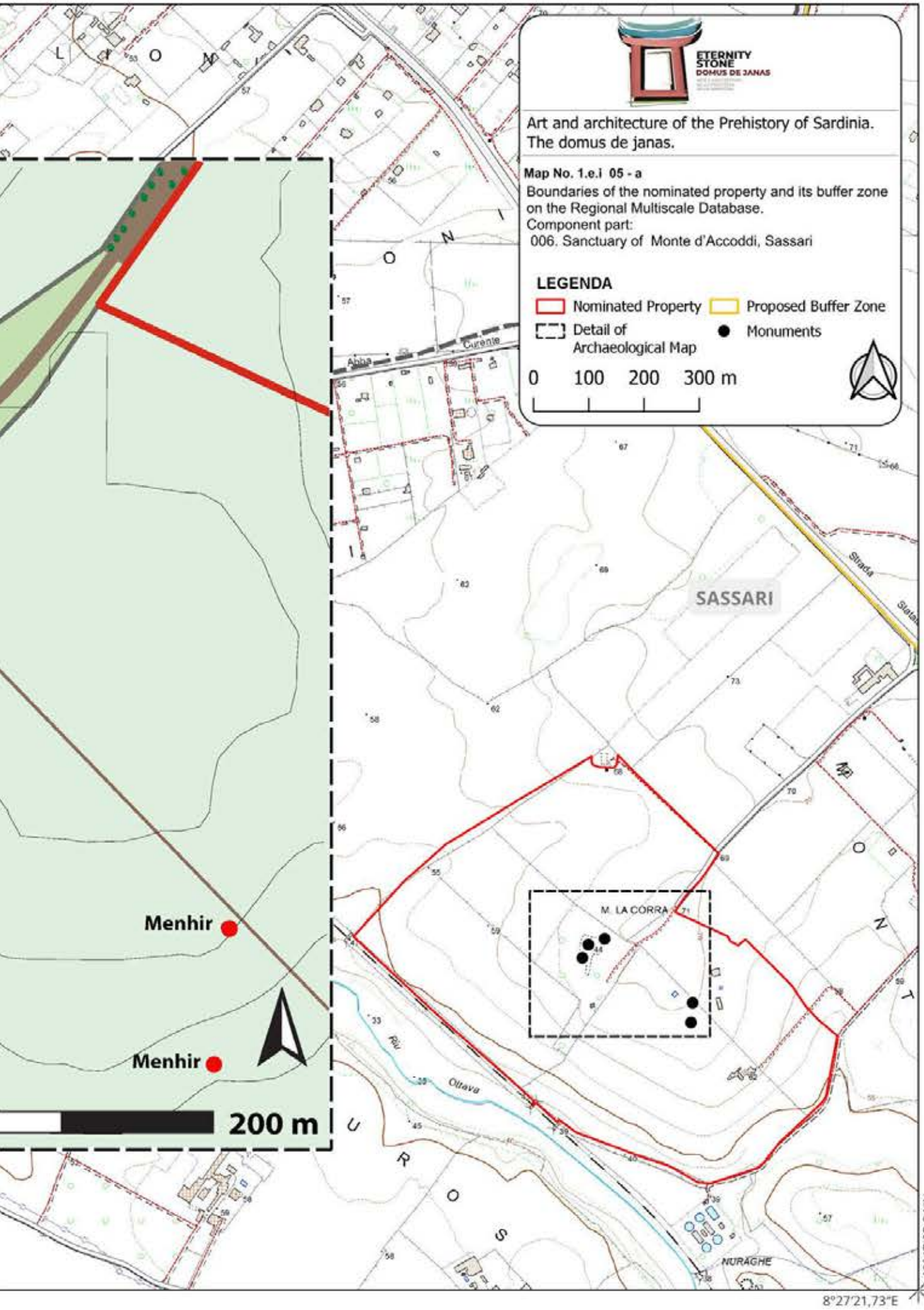

8°23'43,64"E
40°49'39,26"N
40°46'27,92"N
8°23'43,64"E
PORTO TORRES
007
STRADA PROVINCIALE SAN GIACOMO
EX STRADA STATALE CARLO FELICE N. 131
STRADA VICINALE PONTI PIZZINNU
RIU GALARU
RIU MANNU

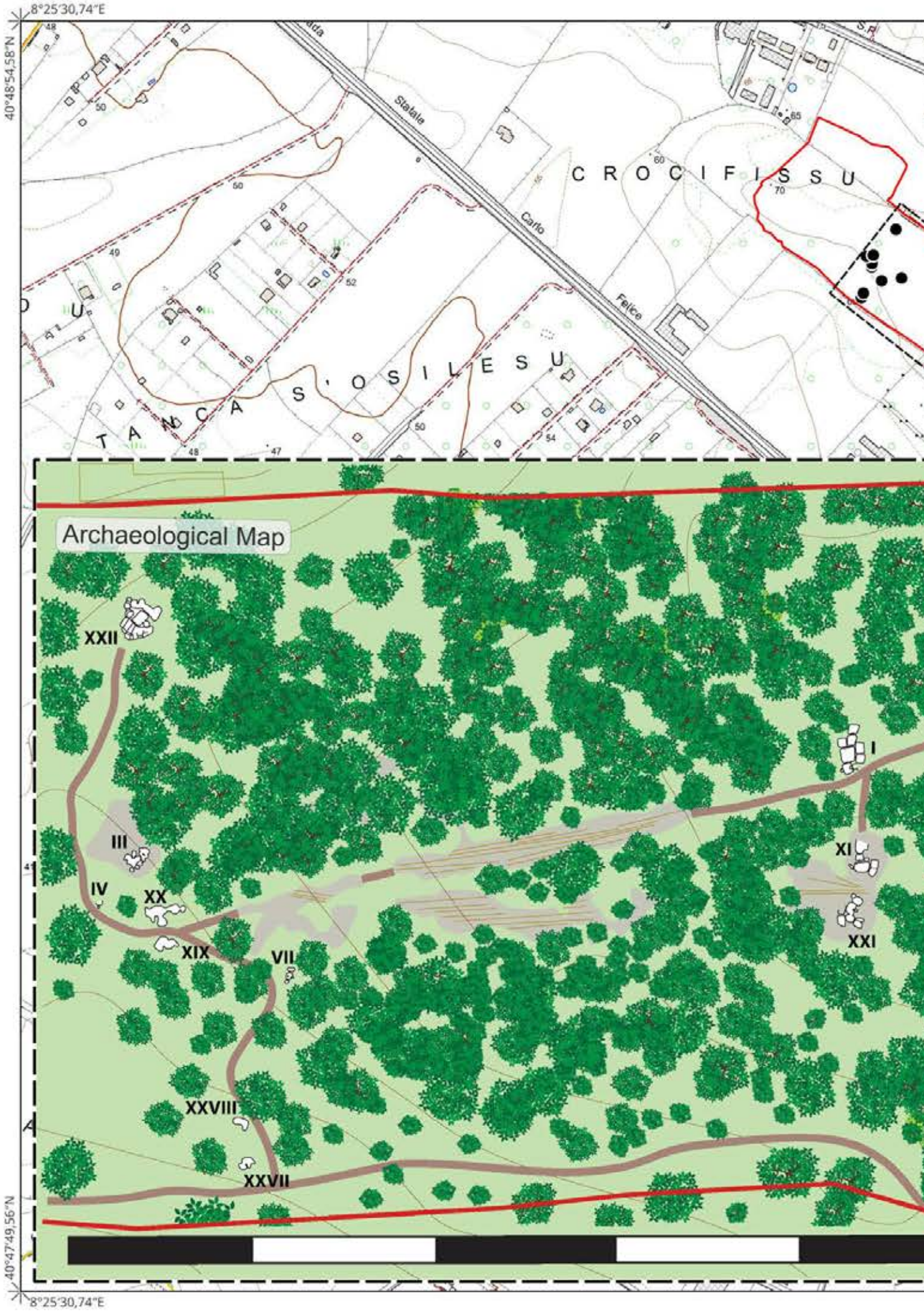

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 05 - 1
Boundaries of nominated property and its buffer zone on the Regional Multiscale Database.
Component parts:
006. Sanctuary of Monte d'Accoddi, Sassari
007. Su Crucifissu Mannu, Porto Torres
LEGENDA
Nominated Property
Proposed Buffer Zone
Prehistoric Cultural Heritage
Dolmen
Domus de janas
Necropoli a domus de janas
Other Cultural Heritage
Monumento medievale
Monumento nuragico
Monumento romano
0
400
800
1.200 m
SASSARI
EX STRADA STATALE CARLO FELICE N. 131
STRADA VICINALE MACCIA GIULETTA
STRADA VICINALE SPINA SANTA-PULTINGLI
40°46'27,92"N
8°29'41,09"E

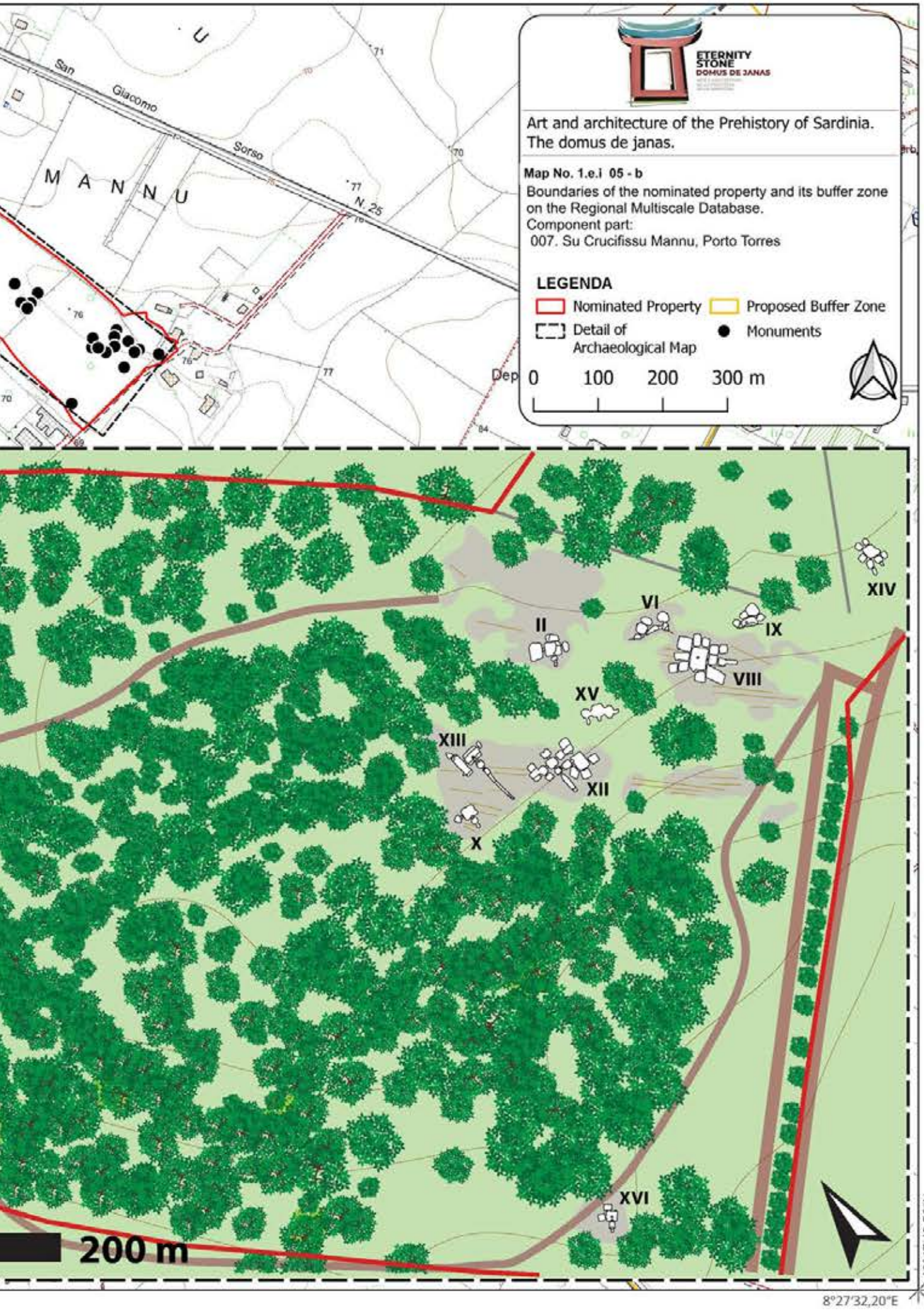

8°23'43,64"E
40°49'39,26"N
STRADA PROVINCIALE SAN GIACOMO
EX STRADA STATALE CARLO FELICE
007
PORTO TORRES
Ortofoto © AGEA
Tutti i diritti riservati
STRADA VICINALE PONTI PIZZINNU
Ortofoto © AGEA
Tutti i diritti riservati
40°46'27,92"N
8°23'43,64"E

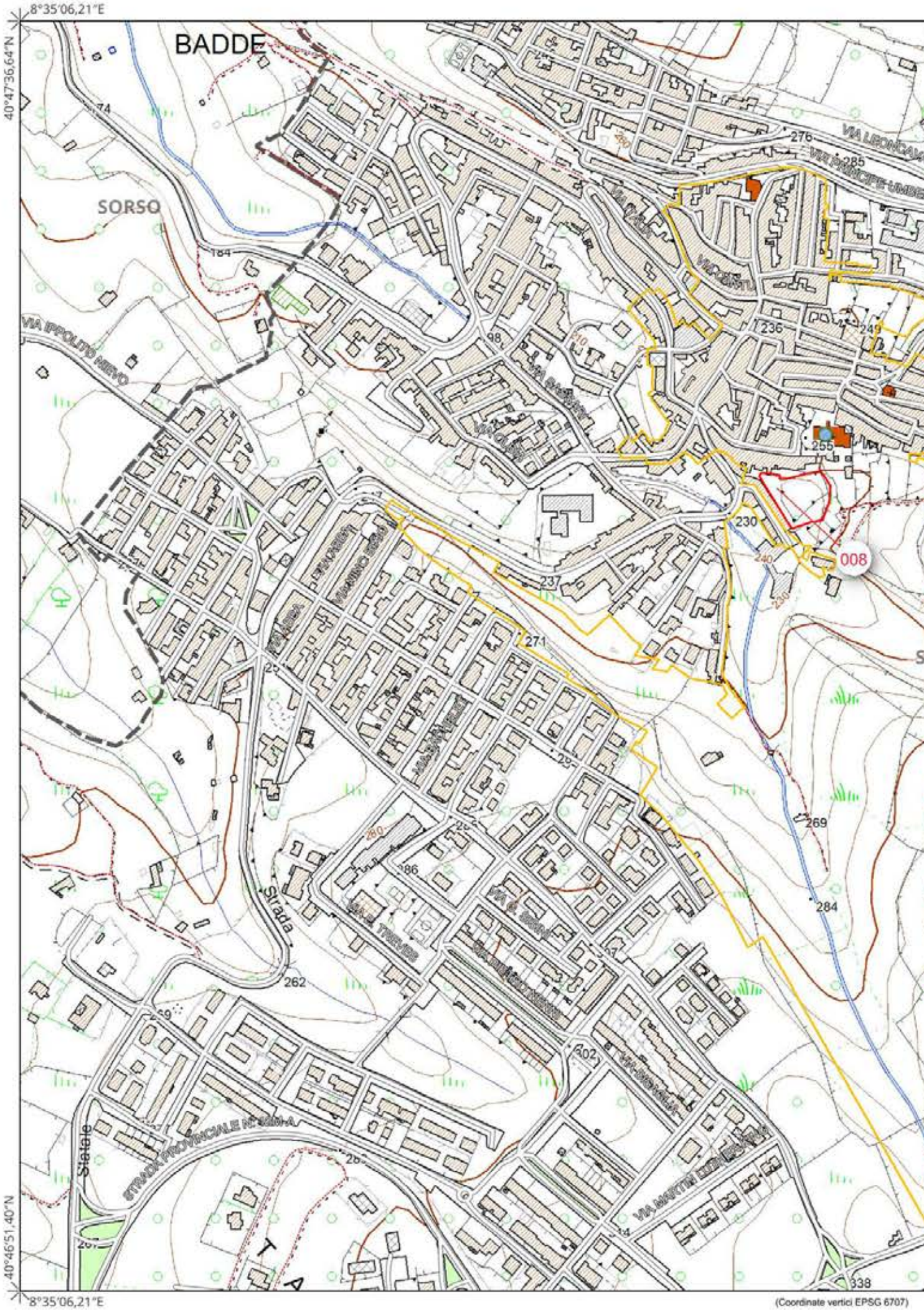

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 05 - 2
Boundaries of nominated property and its buffer zone on Ortofoto AGEA (ris. 20cm.).
Component parts:
006. Sanctuary of Monte d'Accoddi, Sassari
007. Su Crucifissu Mannu, Porto Torres
LEGENDA
Nominated Property
Proposed Buffer Zone
0
400
800
1.200 m
Ortofoto © AGEA
Tutti i diritti riservati
STRADA PROVINCIALE SAN GIACOMO SORSO N. 25
STRADA COMUNALE PLATAMONA
EX STRADA STATALE CARLO FELICE N. 131
SASSARI
STRADA VICINALE SPINA SANTA PULTIGA
STRADA VICINALE MAGCIA GULETTA
40°46'27,92"N
8°29'41,09"E

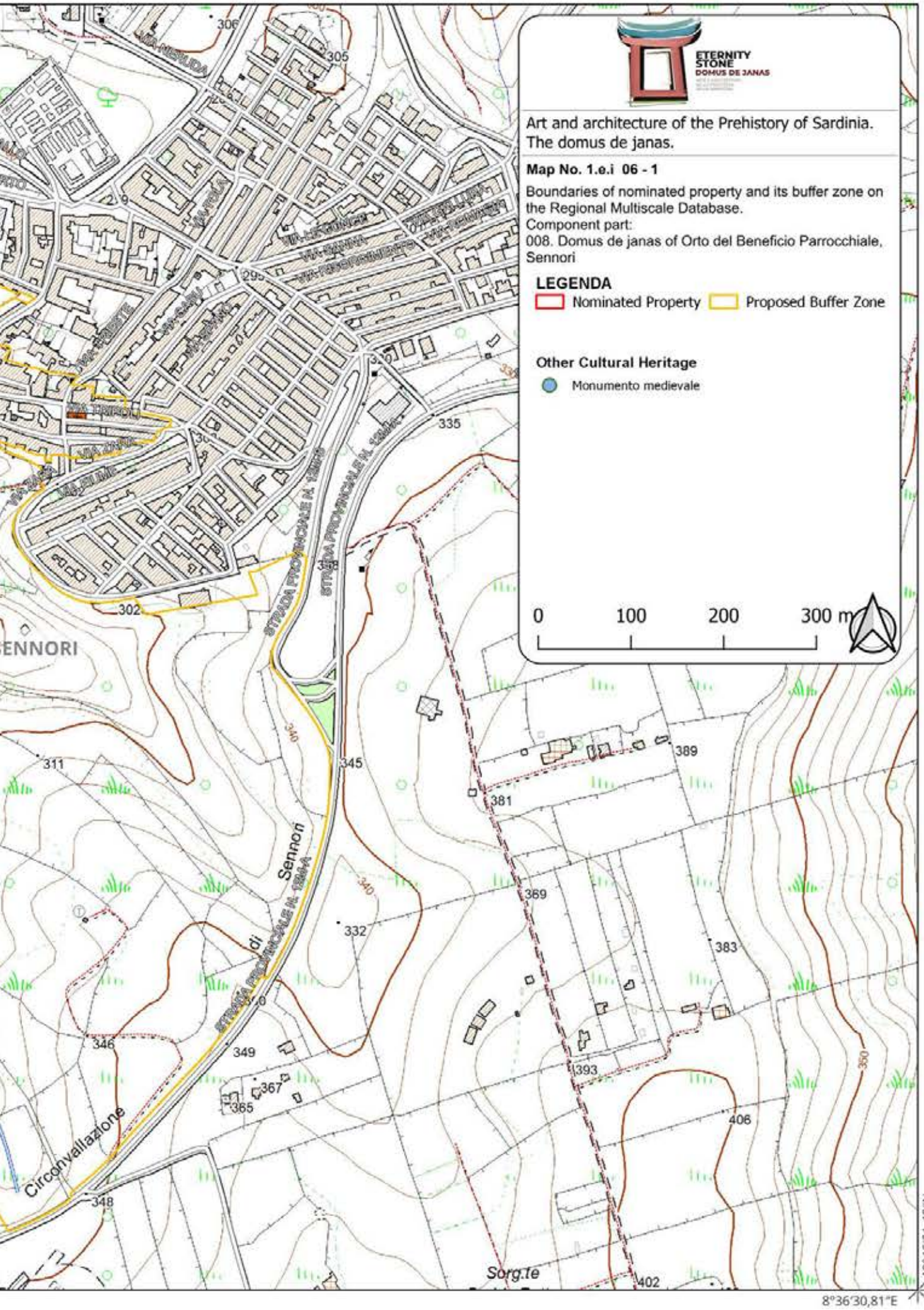

8°24'59,65"E
40°48'21,90"N
PORTO TORRES
Archaeological Map
Altare
Villaggio
Menhir
Acquedotto
40°47'05,84"N
8°24'59,65"E


ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 05 - a
Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
006. Sanctuary of Monte d'Accoddi, Sassari
LEGENDA
Nominated Property
Proposed Buffer Zone
Detail of Archaeological Map
Monuments
0 100 200 300 m
SASSARI
M. LA CORRA
Menhir
Menhir
200 m
NURAGHE
40°47'05,84"N
8°27'21,73"E


8°25'30,74"E
40°48'54,58"N
40°47'49,56"N
Archaeological Map
XXII
I
III
XI
IV
XX
XXI
XIX
VII
XXVIII
XXVII
C R O C I F I S S U
T A N C A S ' O S I L E S U
Statale
Carlo
Felice

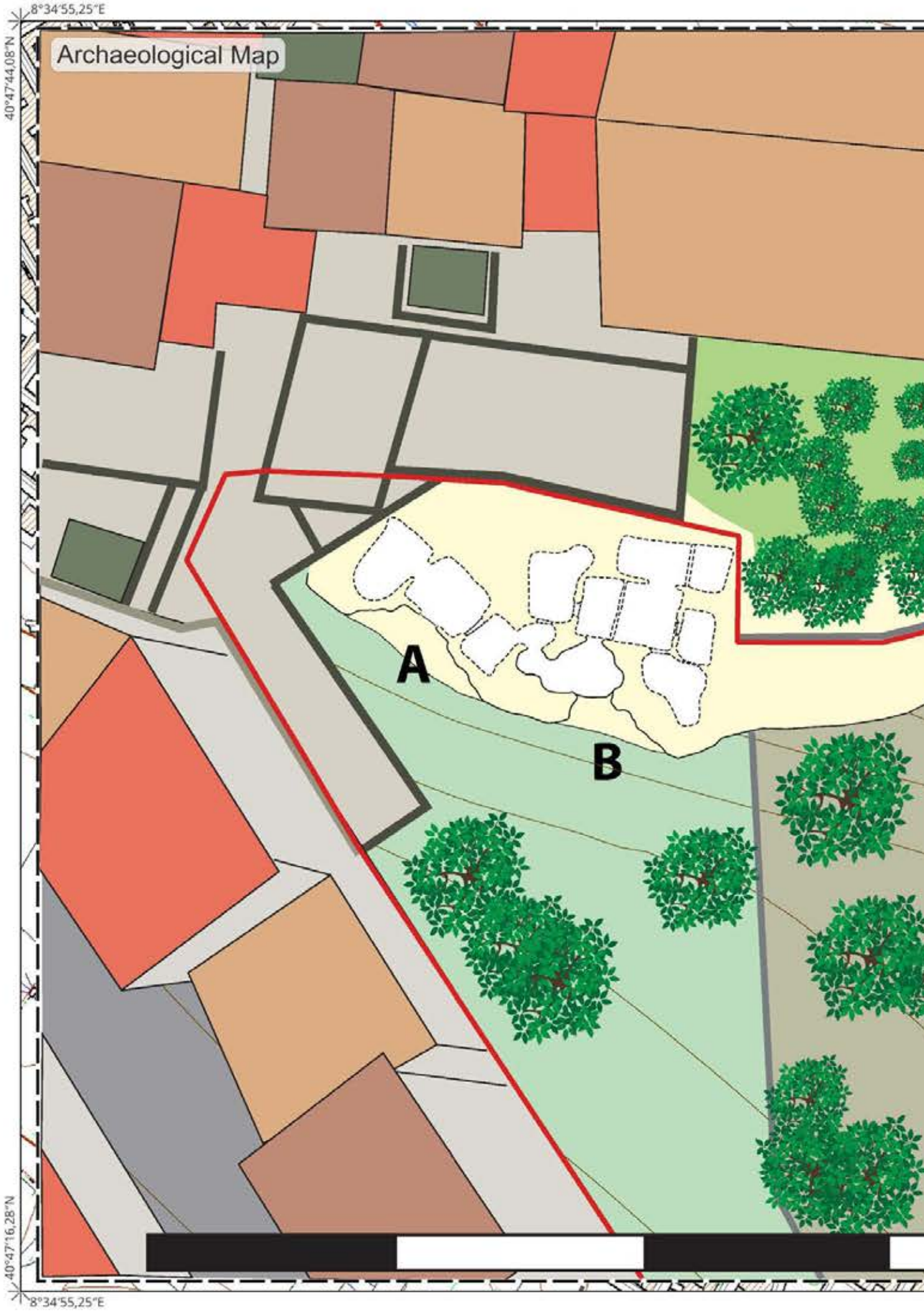

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 05 - b
Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
007. Su Crucifissu Mannu, Porto Torres
LEGENDA
Nominated Property
Proposed Buffer Zone
Detail of Archaeological Map
Monuments
0 100 200 300 m
San Giacomo
Sorso
N. 25
M A N N U
Dep
II
VI
IX
XIV
VIII
XV
XIII
XII
X
XVI
200 m
40°47'49,56"N
8°27'32,20"E

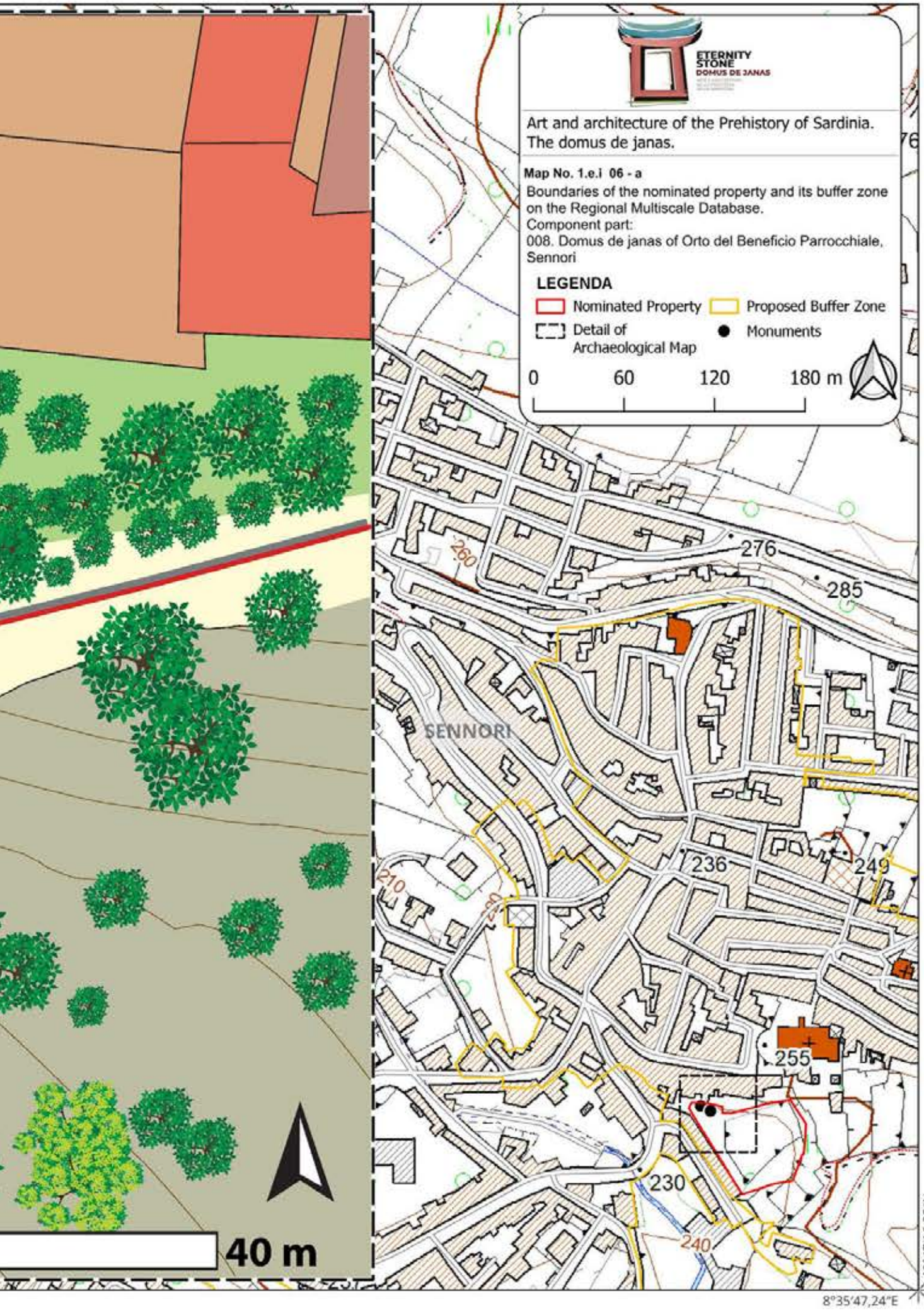

8°35'06,21"E
40°47'36,64"N
BADDE
SORSO
VIA IPPOLITO NIEVO
Strada
Statale
STRADA PROVINCIALE N°
VIA MARTIN LUTHER KING
008
276
285
236
255
230
240
237
271
269
284
262
286
302
338
40°46'51,40"N
8°35'06,21"E
(Coordinate vertici EPSG 6707)

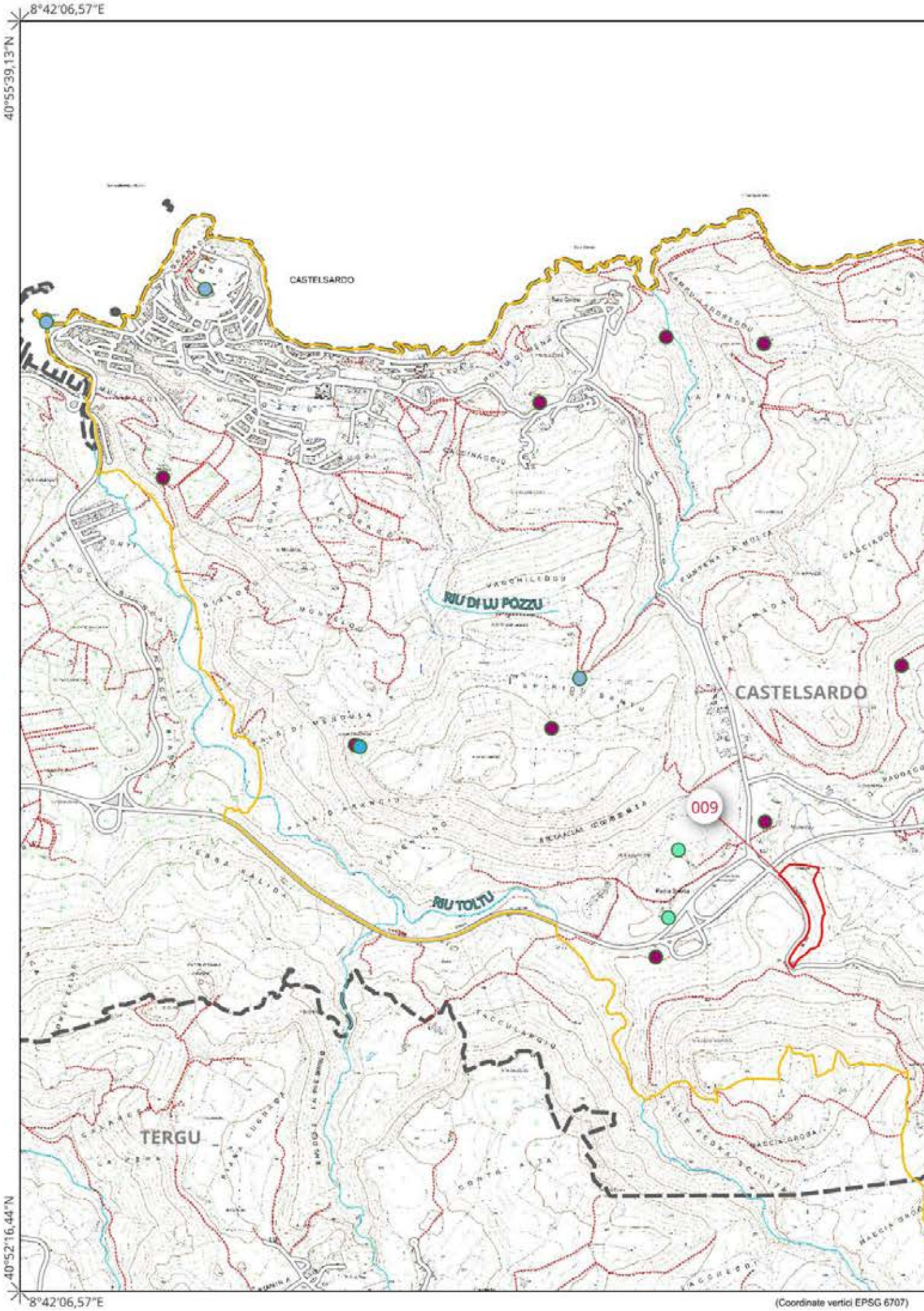

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 06 - 1
Boundaries of nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
008. Domus de janas of Orto del Beneficio Parrocchiale, Sennori
LEGENDA
Nominated Property
Proposed Buffer Zone
Other Cultural Heritage
Monumento medievale
0
100
200
300 m
SENNORI
Sennori
Circonvallazione
Sorg.te
40°46'51,40"N
8°36'30,81"E

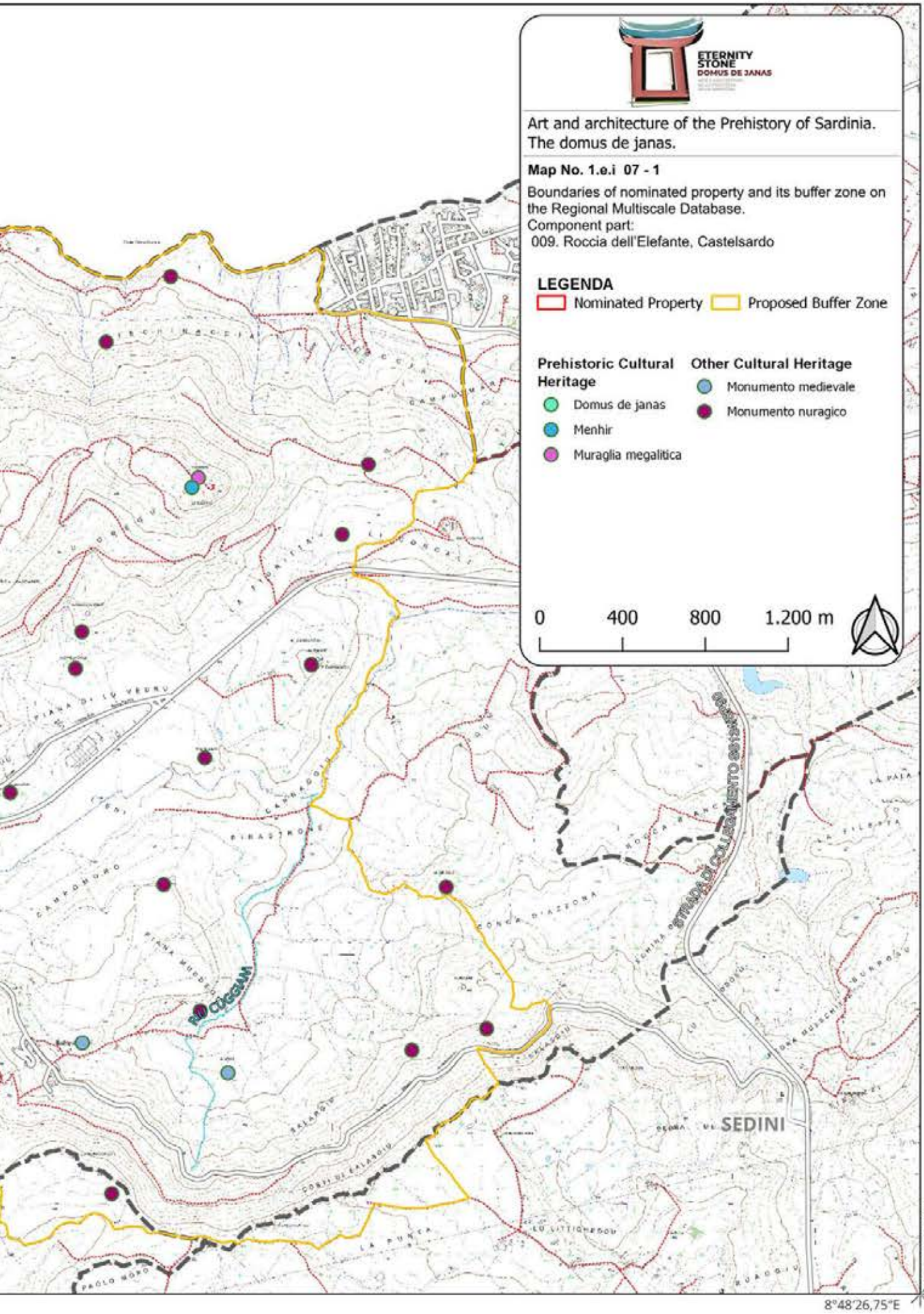
8°35'06,21"E
40°47'36,64"N
40°46'51,40"N
8°35'06,21"E
SORSO
VIA IPPOLITO NIEVO
VIA PRINCIPE UMBE
VIA SASSARI
VIA CAGLIARI
VIA ABEA
VIA NINO BIXIO
VIA CAGLIERI
VIA C. SISINI
VIA PIETRO NENNI
VIA BISAGLIA
VIA MARTIN LUTHER KING
STRADA PROVINCIALE N. 42M-A
008
Ortofoto © AGEA
Tutti i diritti riservati
Ortofoto © AGEA
Tutti i diritti riservati
(Coordinate vertici EPS

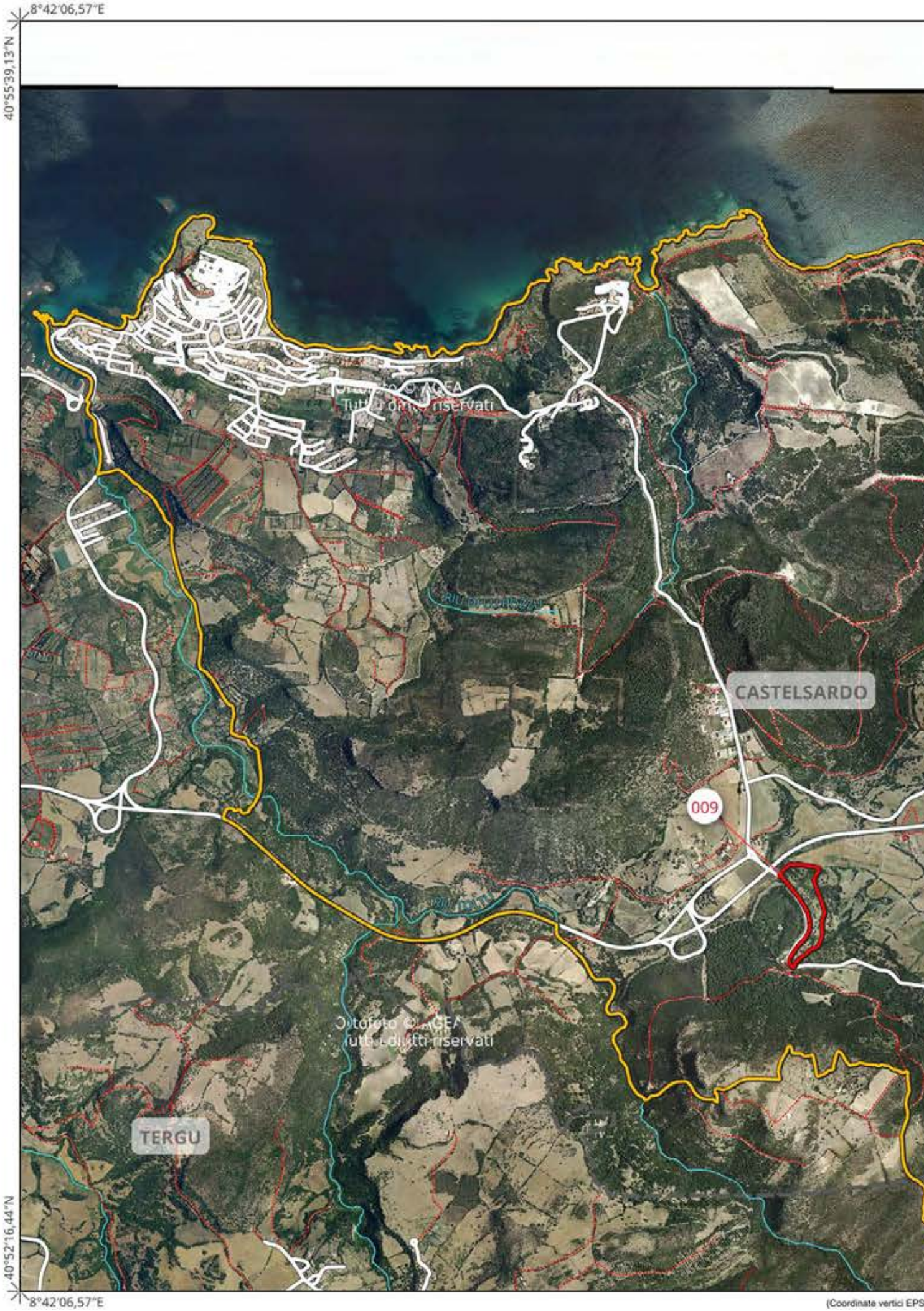
ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 06 - 2
Boundaries of nominated property and its buffer zone on Ortofoto AGEA (ris. 20cm.).
Component part:
008. Domus de janas of Orto del Beneficio Parrocchiale, Sennori
LEGENDA
Nominated Property
Proposed Buffer Zone
0
100
200
300 m
VIA NERUDA
VIA TRIESTE
VIA FIUME
STRADA PROVINCIALE N. 12M-B
STRADA PROVINCIALE N. 12M-A
SENNORI
Ortofoto © AGEA
Tutti i diritti riservati
Ortofoto © AGEA
Tutti i diritti riservati
40°46'51,40"N
8°36'30,81"E

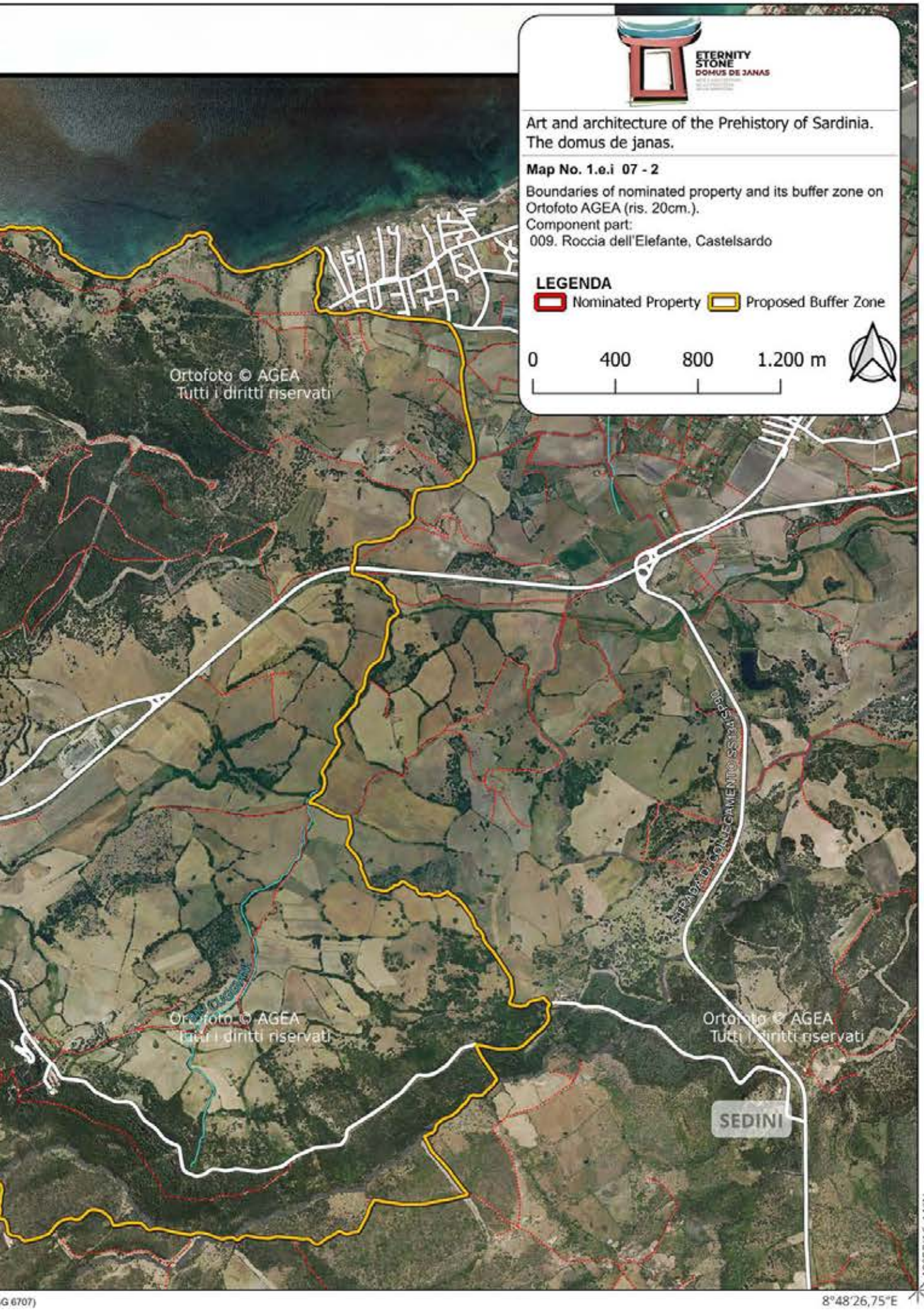

8°34'55,25"E
40°47'44,08"N
Archaeological Map
A
B
40°47'16,28"N
8°34'55,25"E

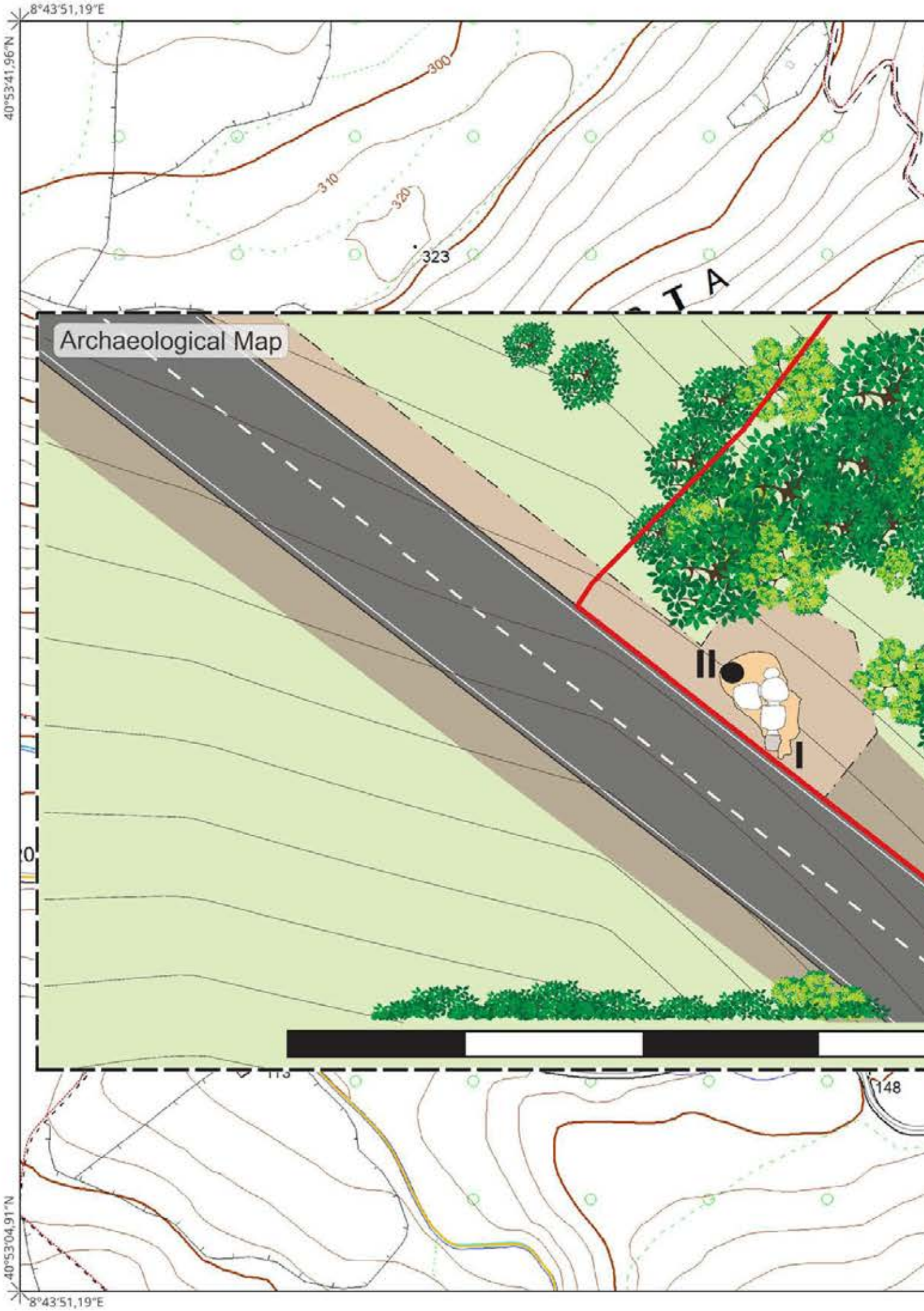

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 06 - a
Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
008. Domus de janas of Orto del Beneficio Parrocchiale, Sennori
LEGENDA
Nominated Property
Proposed Buffer Zone
Detail of Archaeological Map
Monuments
0
60
120
180 m
SENNORI
276
285
260
236
249
210
255
230
240
40 m
40°47'16,28"N
8°35'47,24"E

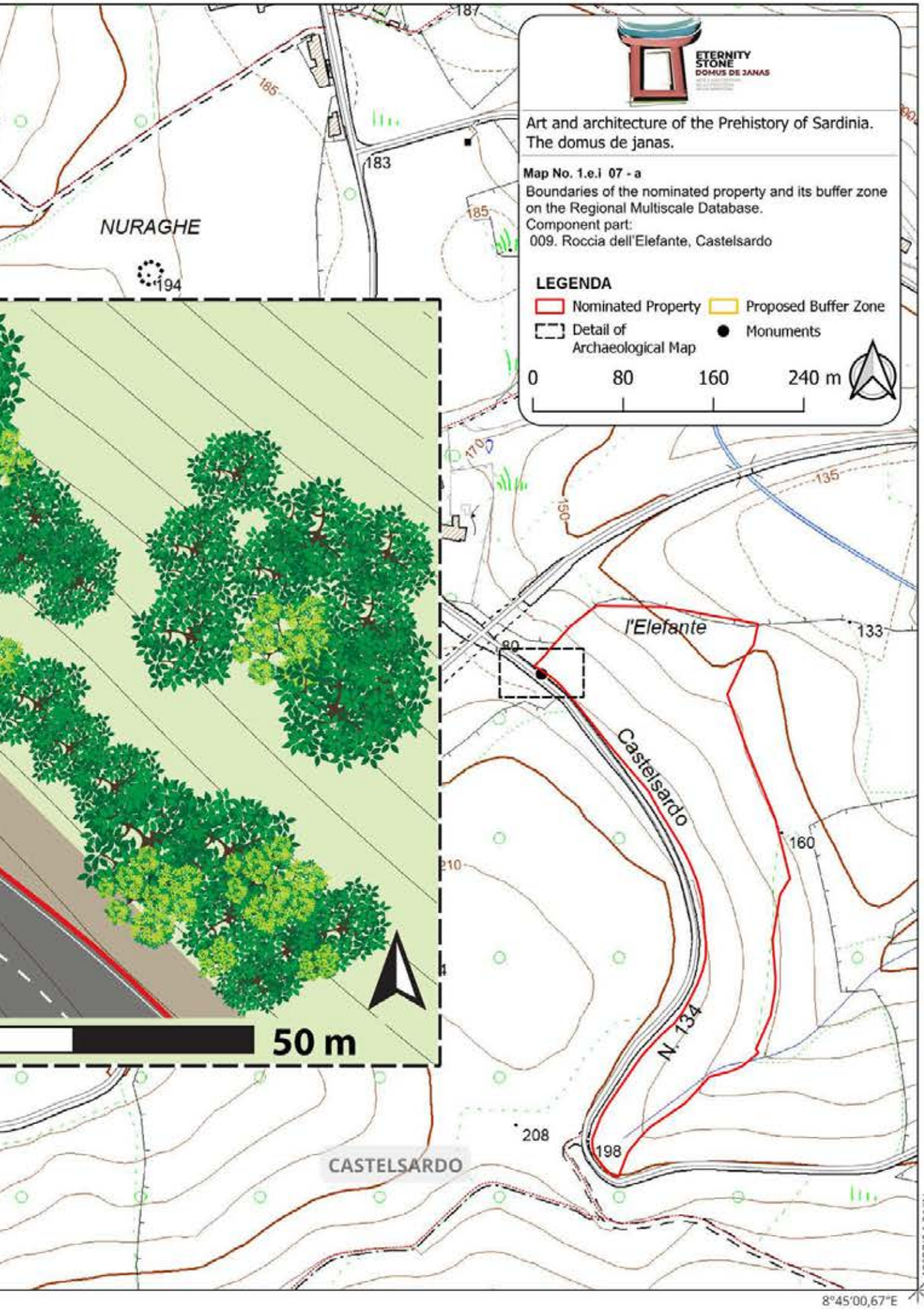

8°42'06,57"E
40°55'39,13"N
CASTELSARDO
RIU DI LU POZZU
CASTELSARDO
009
RIU TOLTU
TERGU
40°52'16,44"N
8°42'06,57"E
(Coordinate vertici EPSG 6707)

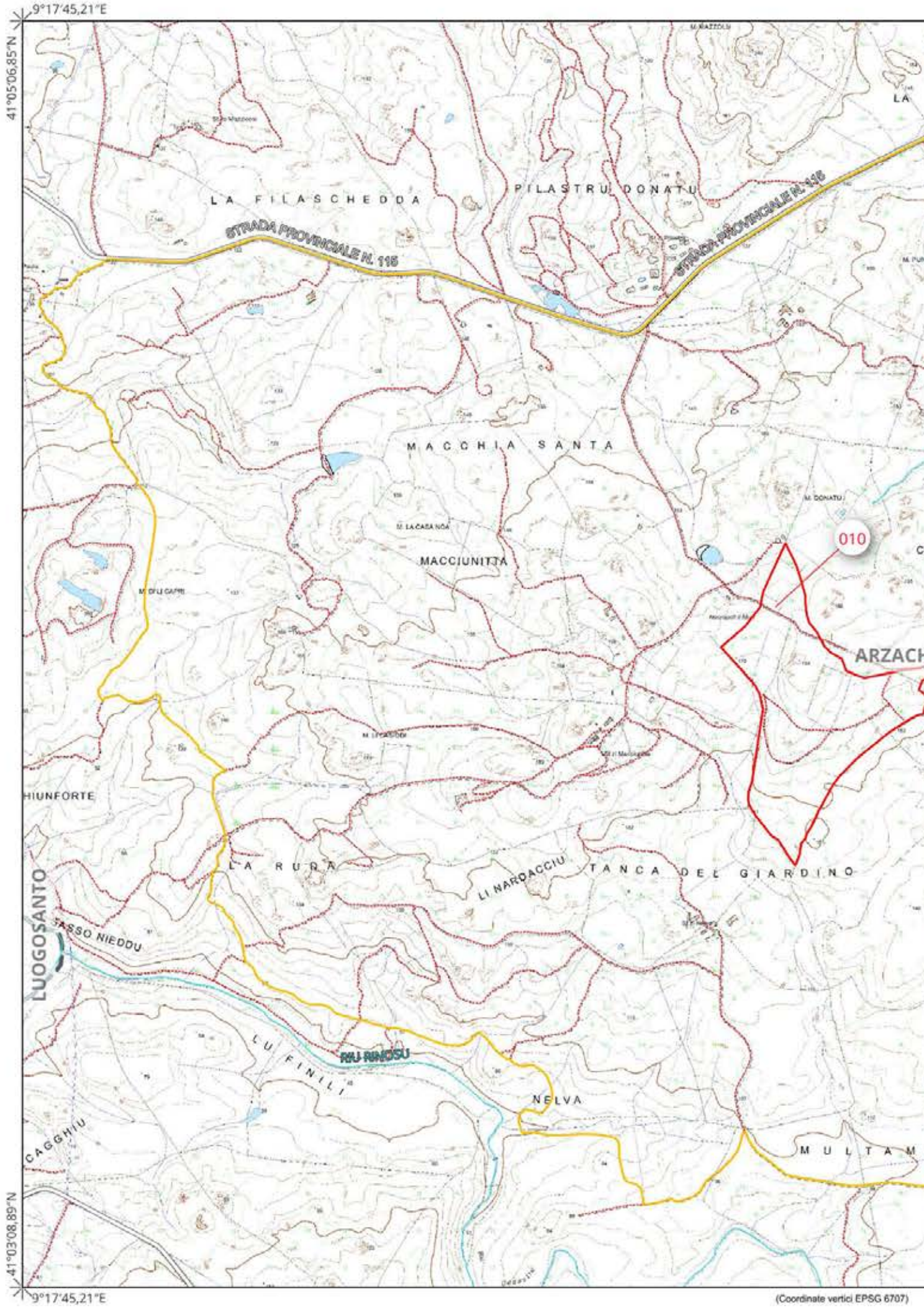

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 07 - 1
Boundaries of nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
009. Roccia dell'Elefante, Castelsardo
LEGENDA
Nominated Property
Proposed Buffer Zone
Prehistoric Cultural Heritage
Domus de janas
Menhir
Muraglia megalitica
Other Cultural Heritage
Monumento medievale
Monumento nuragico
0
400
800
1.200 m
SEDINI
40°52'16,44"N
8°48'26,75"E

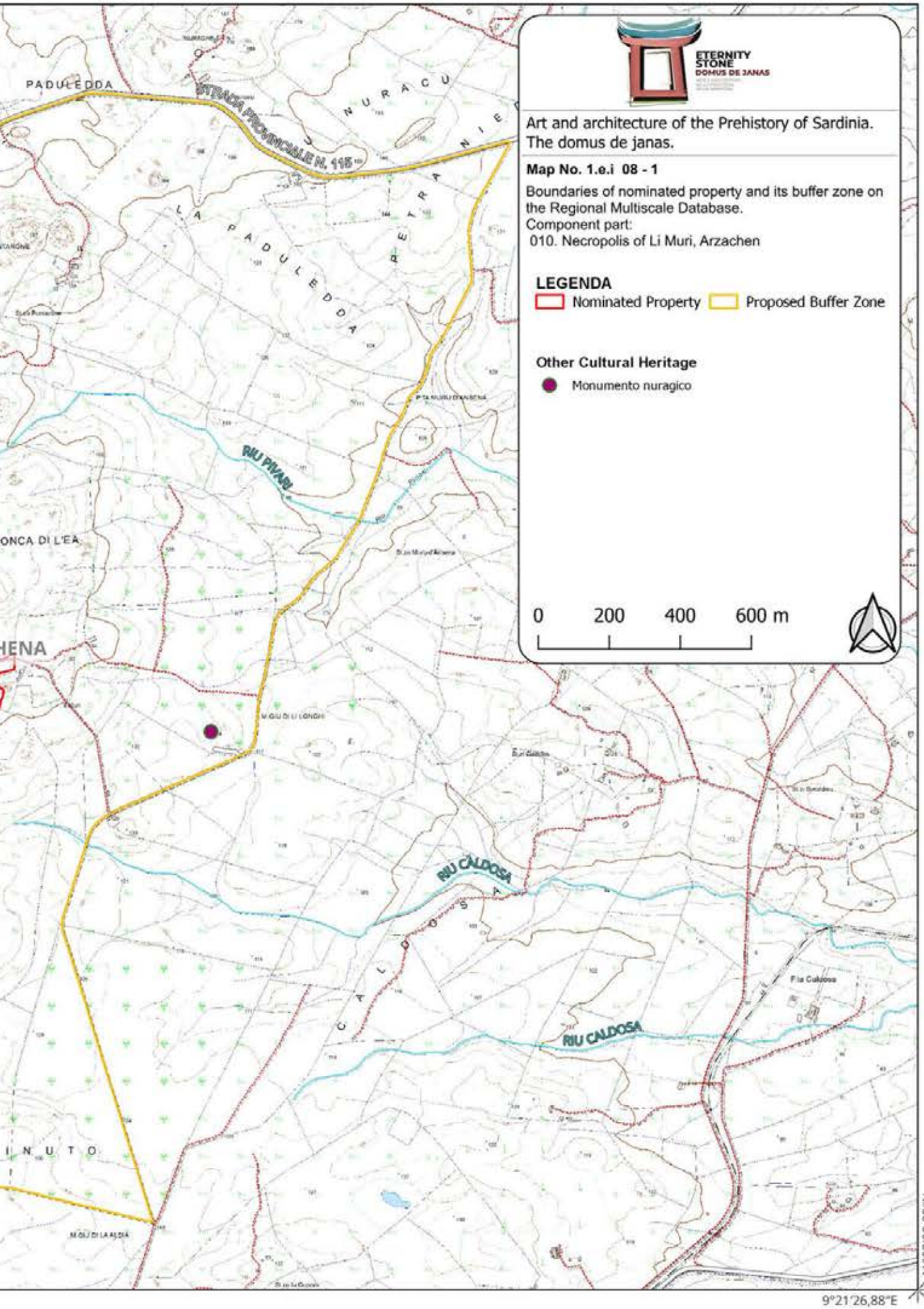

8°42'06,57"E
40°55'39,13"N
CASTELSARDO
009
TERGU
40°52'16,44"N
8°42'06,57"E

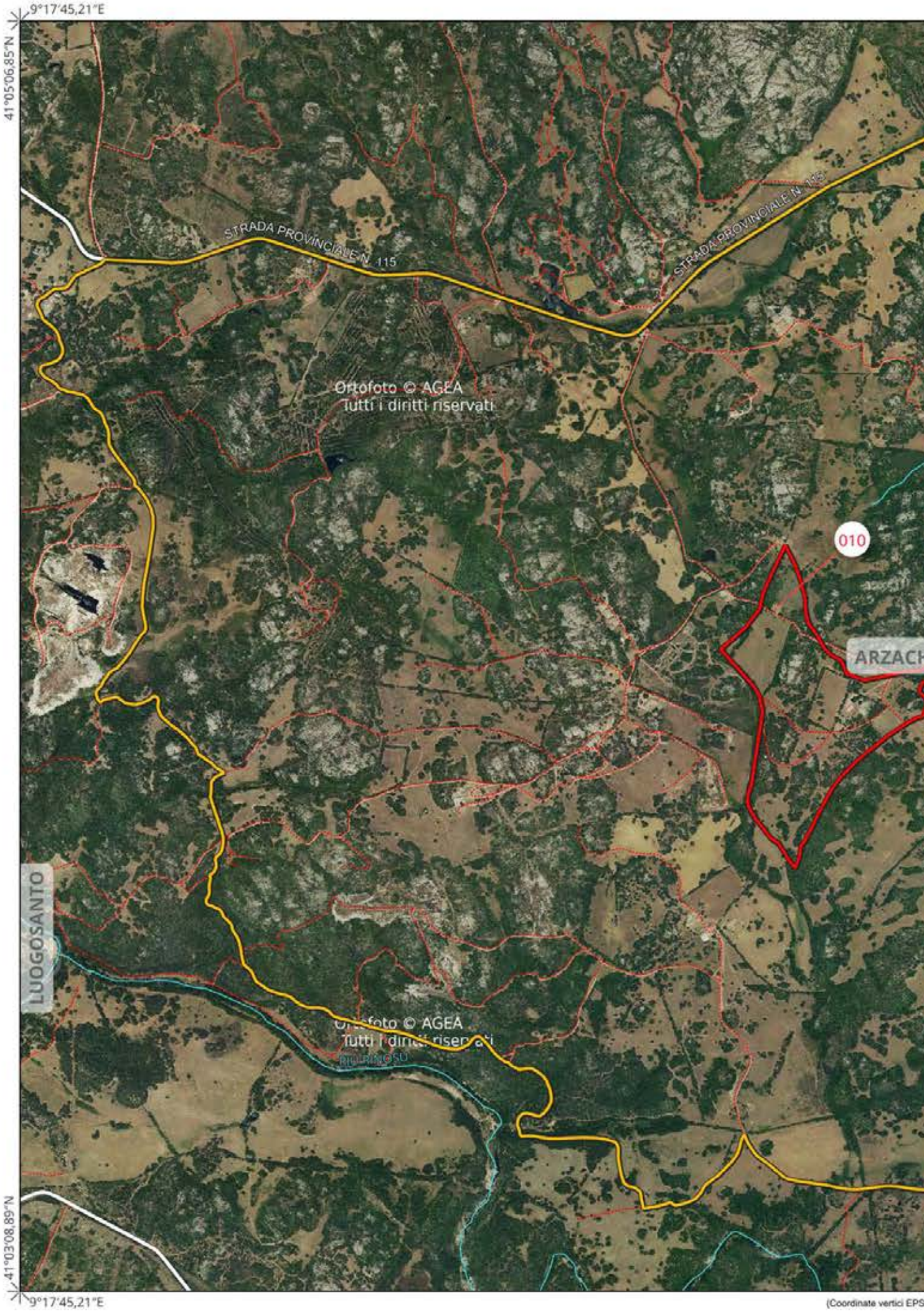

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 07 - 2
Boundaries of nominated property and its buffer zone on Ortofoto AGEA (ris. 20cm.).
Component part:
009. Roccia dell'Elefante, Castelsardo
LEGENDA
Nominated Property
Proposed Buffer Zone
0
400
800
1.200 m
Ortofoto © AGEA
Tutti i diritti riservati
Ortofoto © AGEA
Tutti i diritti riservati
Ortofoto © AGEA
Tutti i diritti riservati
SEDINI
40°52'16,44"N
8°48'26,75"E

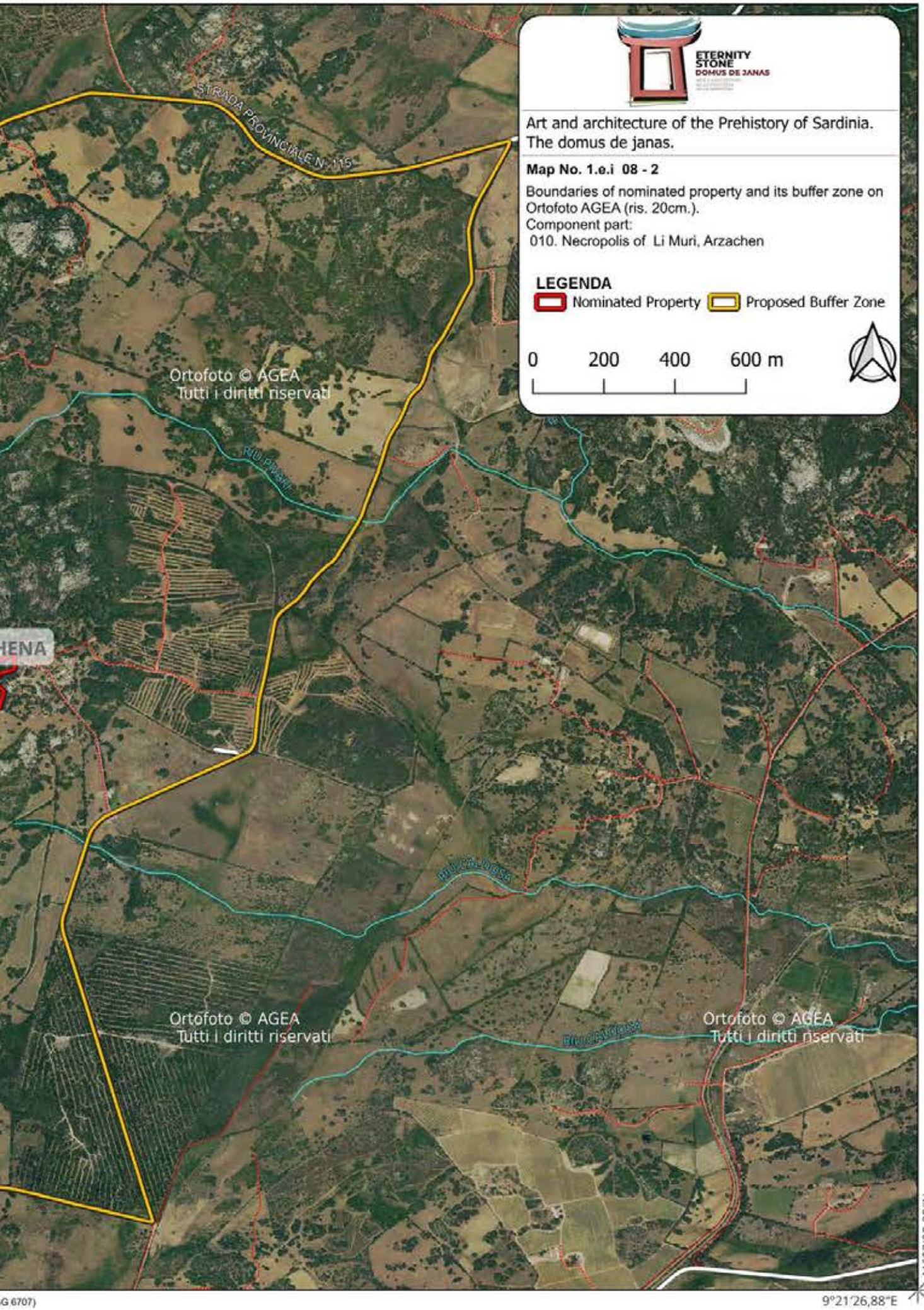

8°43'51,19"E
40°53'41,96"N
300
310
320
323
Archaeological Map
II
I
148
40°53'04,91"N
8°43'51,19"E

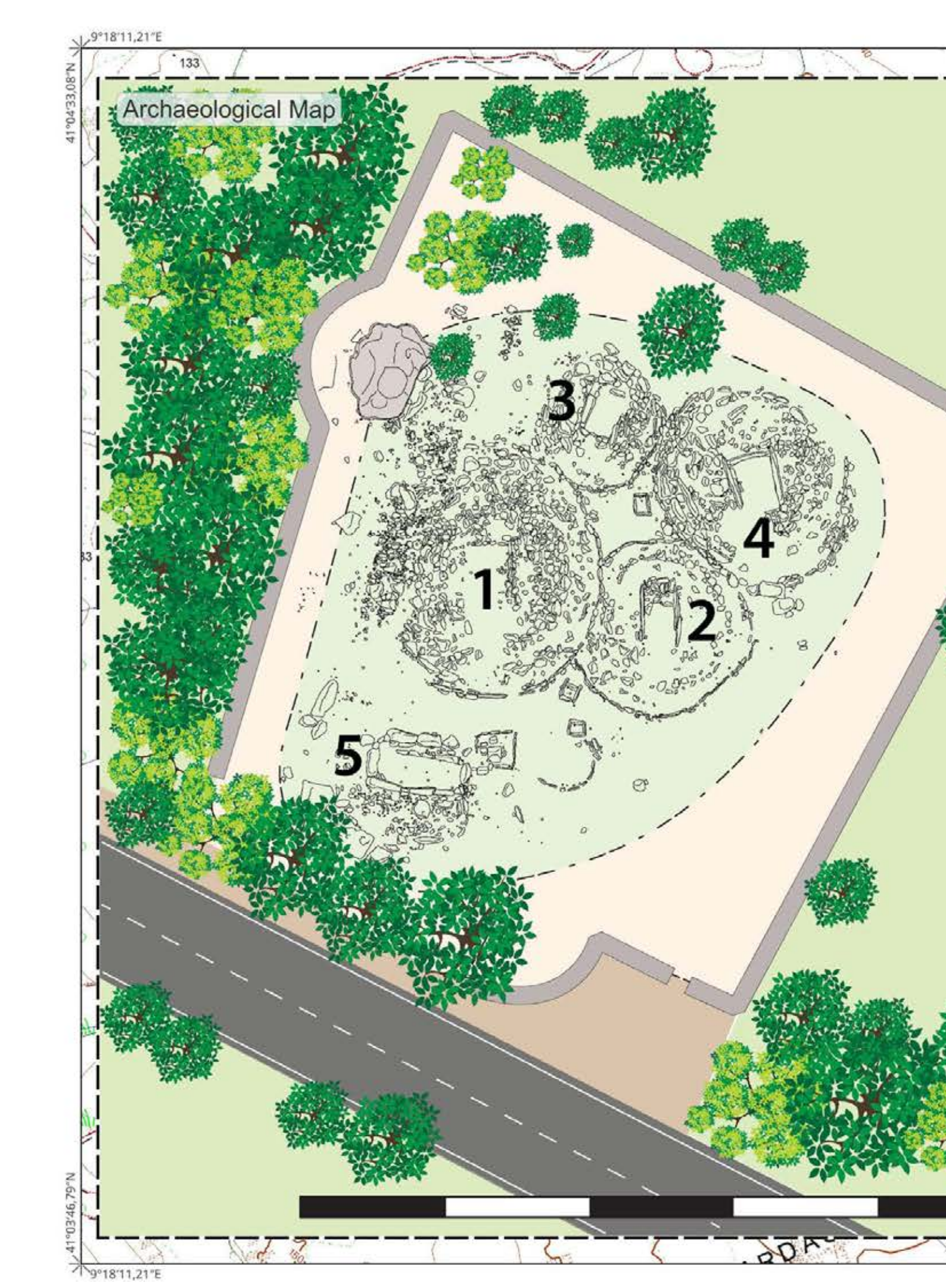

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 07 - a
Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
009. Roccia dell'Elefante, Castelsardo
LEGENDA
Nominated Property
Proposed Buffer Zone
Detail of Archaeological Map
Monuments
0
80
160
240 m
NURAGHE
194
183
185
187
170
150
135
133
l'Elefante
Castelsardo
N. 134
160
210
208
198
CASTELSARDO
50 m
40°53'04,91"N
8°45'00,67"E

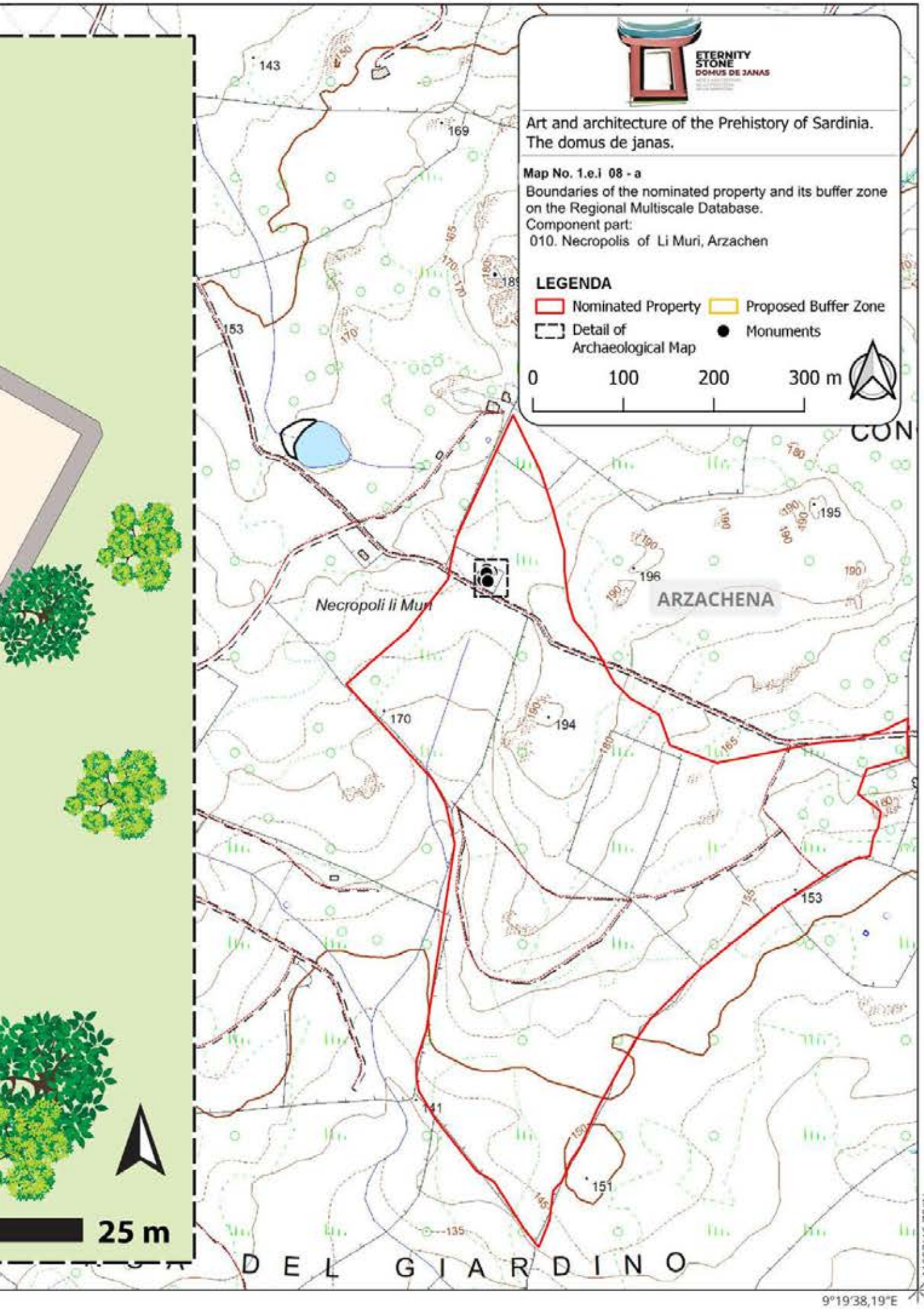

9°17'45,21"E
41°05'06,85"N
41°03'08,89"N
9°17'45,21"E
LA FILASCHEDDA
PILASTRU DONATU
STRADA PROVINCIALE N. 116
STRADA PROVINCIALE N. 116
MACCHIA SANTA
M. LA CASA NOA
MACCIUNITTA
M. DONATU
010
ARZACH
HIUNFORTE
LA RURA
LI NARDACCIU
TANCA DEL GIARDINO
LUOGOSANTO
TASSO NIEDDU
LU FINILI
RIU RINOSU
NELVA
CAGGHIU
MULTAM
(Coordinate vertici EPSG 6707)

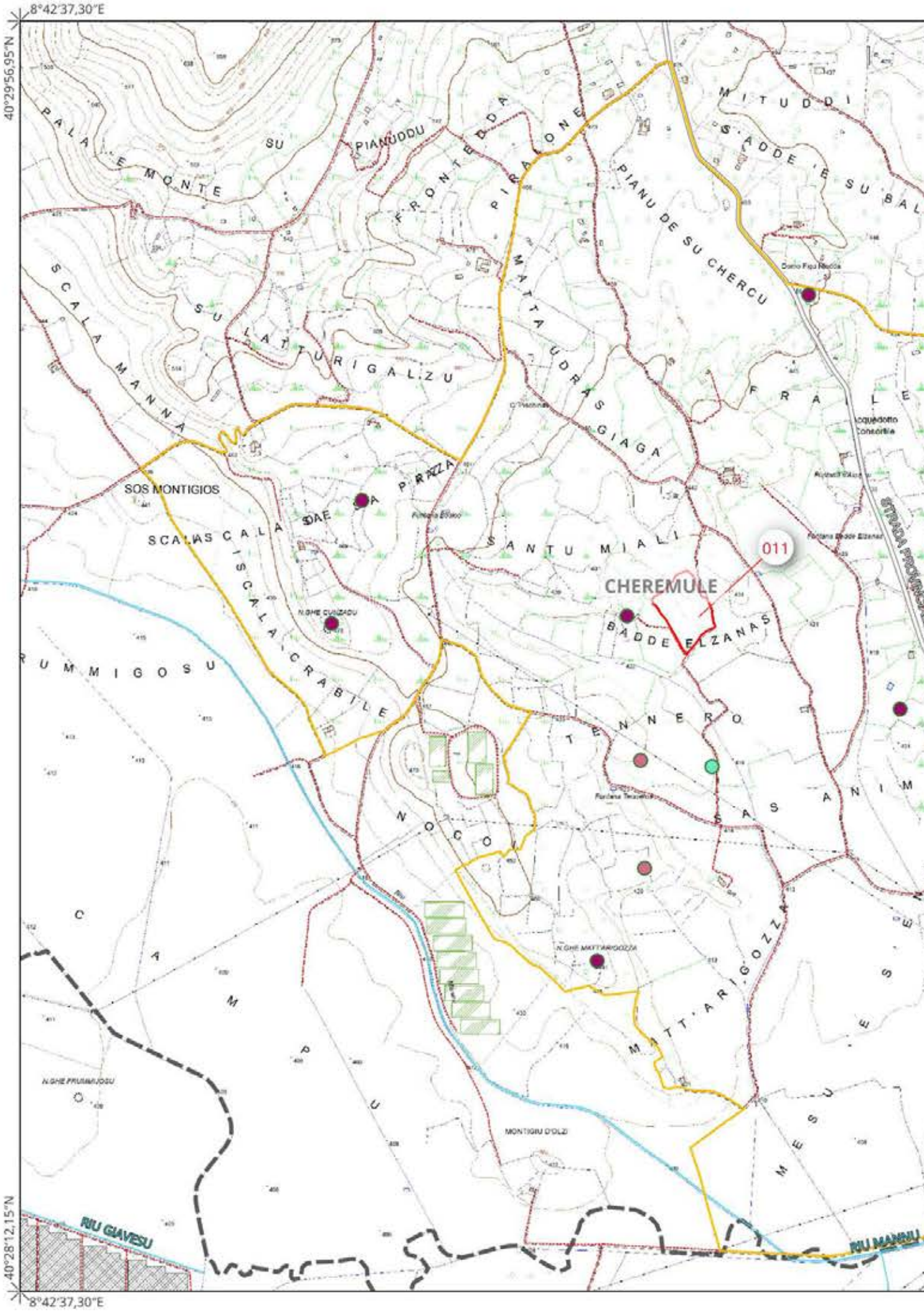

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 08 - 1
Boundaries of nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
010. Necropolis of Li Muri, Arzachen
LEGENDA
Nominated Property
Proposed Buffer Zone
Other Cultural Heritage
Monumento nuragico
0
200
400
600 m
PADULEDDA
STRADA PROVINCIALE N. 115
RIU PIVARI
RIU CALDOSA
RIU CALDOSA
41°03'08,89"N
9°21'26,88"E

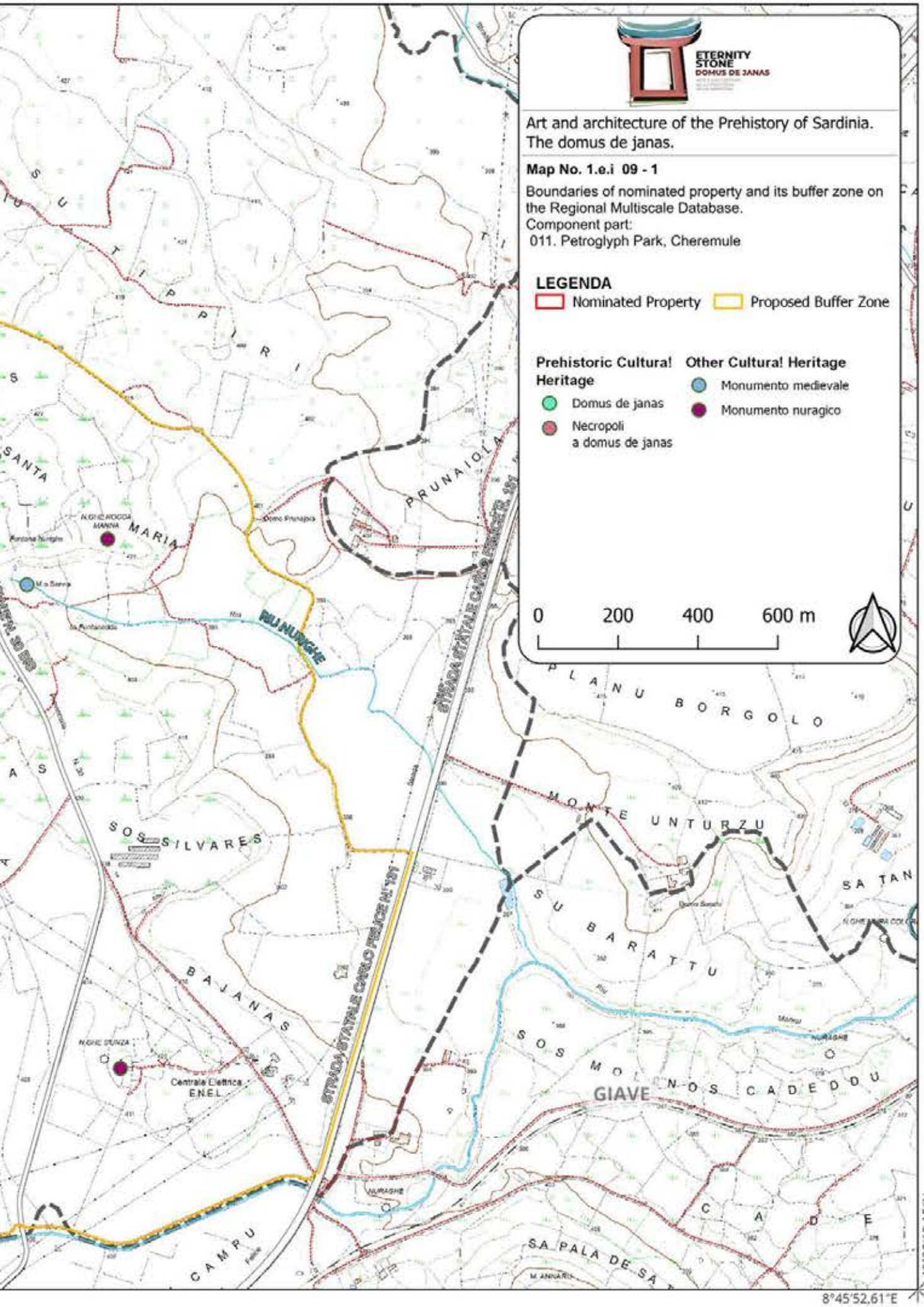

9°17'45,21"E
41°05'06,85"N
STRADA PROVINCIALE N. 115
STRADA PROVINCIALE N. 115
Ortofoto © AGEA
Tutti i diritti riservati
010
ARZACH
LUOGOSANTO
Ortofoto © AGEA
Tutti i diritti riservati
41°03'08,89"N
9°17'45,21"E
(Coordinate vertici EPS

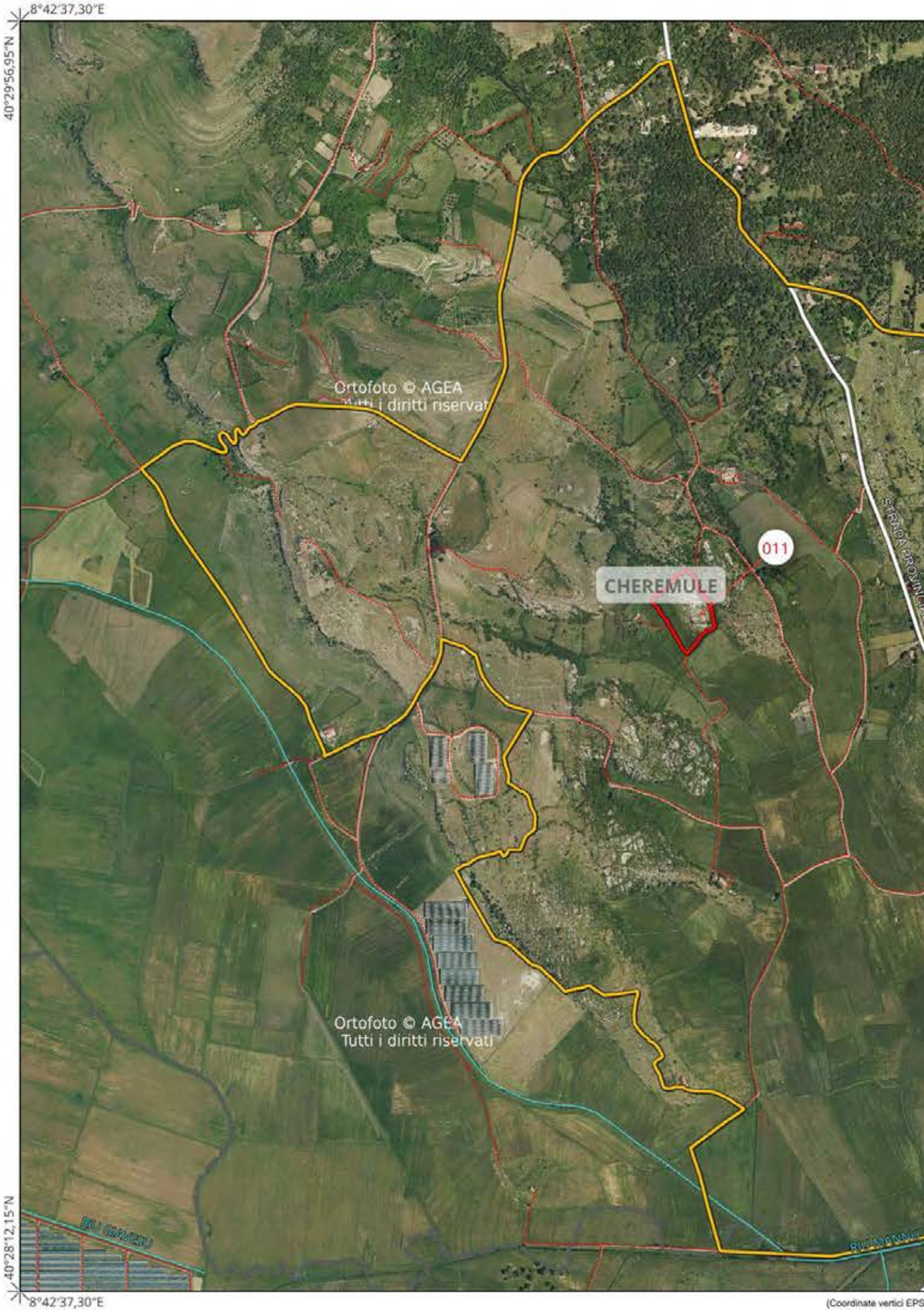

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 08 - 2
Boundaries of nominated property and its buffer zone on Ortofoto AGEA (ris. 20cm.).
Component part:
010. Necropolis of Li Muri, Arzachen
LEGENDA
Nominated Property
Proposed Buffer Zone
0 200 400 600 m
STRADA PROVINCIALE N. 115
Ortofoto © AGEA
Tutti i diritti riservati
Ortofoto © AGEA
Tutti i diritti riservati
Ortofoto © AGEA
Tutti i diritti riservati
41°03'08,89"N
9°21'26,88"E

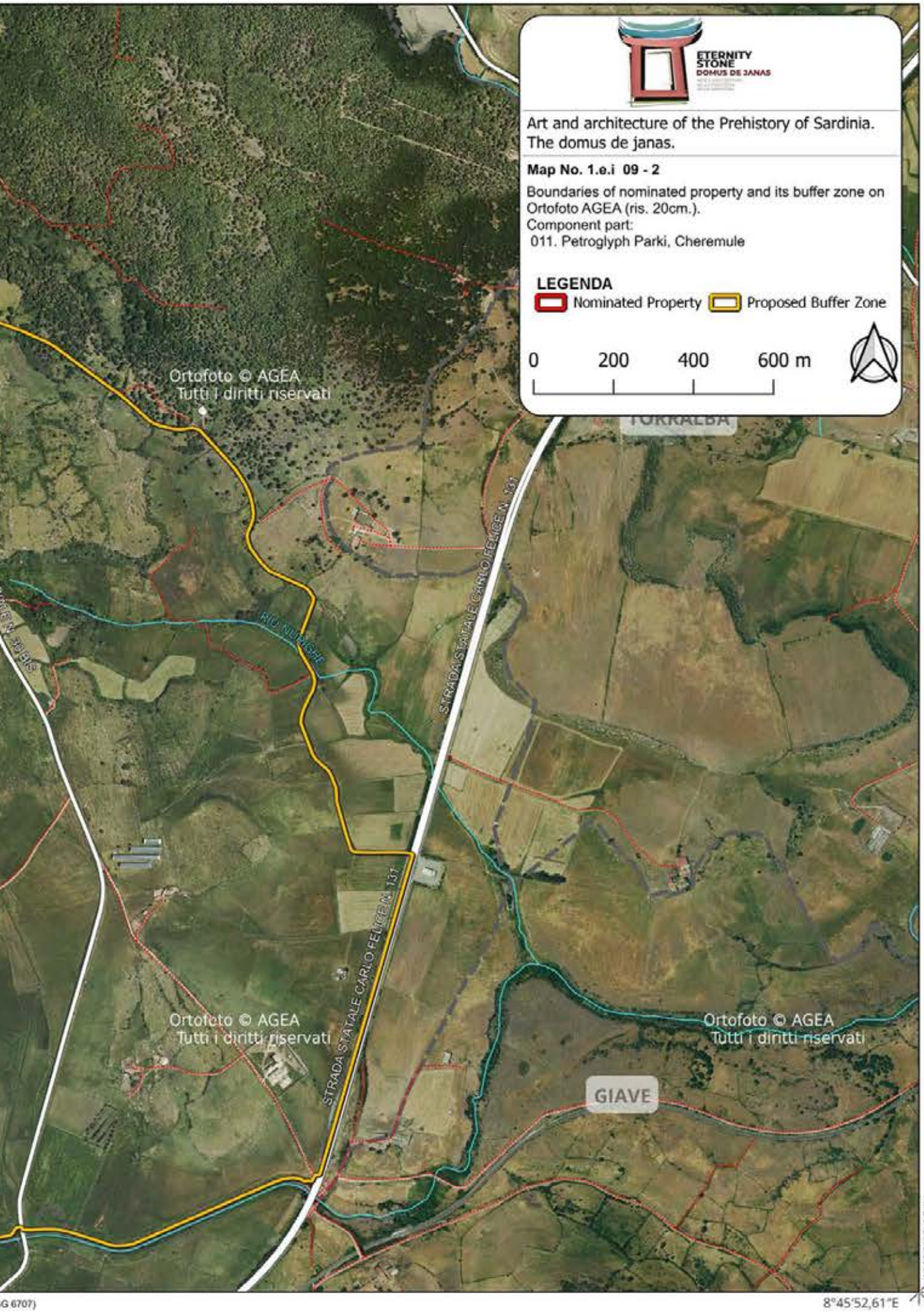

9°18'11,21"E
41°04'33,08"N
133
Archaeological Map
3
4
1
2
5
41°03'46,79"N
9°18'11,21"E

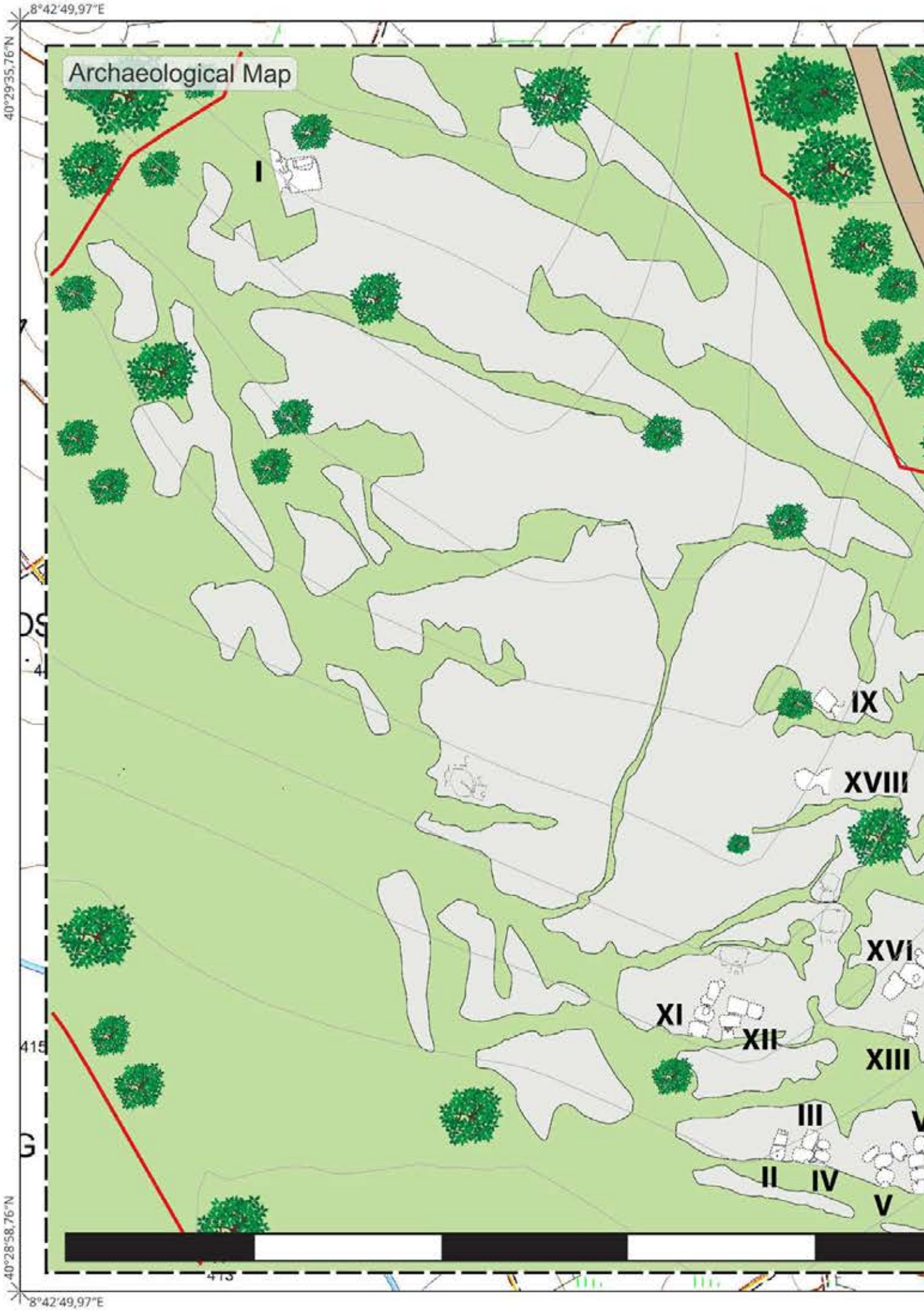

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 08 - a
Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
010. Necropolis of Li Muri, Arzachen
LEGENDA
Nominated Property
Proposed Buffer Zone
Detail of Archaeological Map
Monuments
0 100 200 300 m
Necropoli li Muri
ARZACHENA
DEL GIARDINO
25 m
41°03'46,79"N
9°19'38,19"E

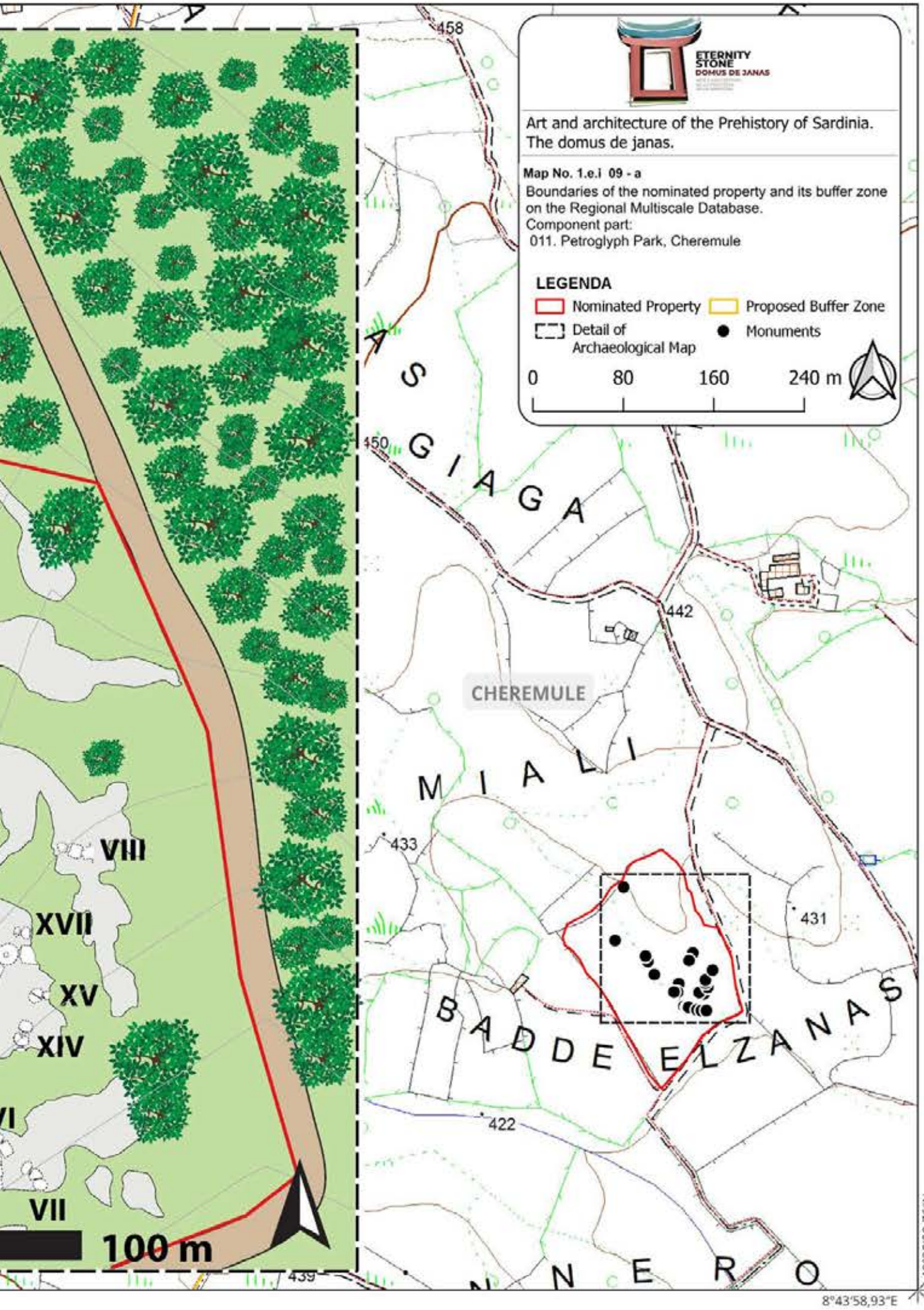

8°42'37,30"E
40°29'56,95"N
40°28'12,15"N
8°42'37,30"E
SOS MONTIGIOS
SCALAS CALA
SCALA MANNA
SU LATTURIGALZU
PIANUDDU
FRONTE BIDA
PIRALONE
MATTA UDRAS
PIANU DE SU CHERCU
MITUDDI
S'ADDE E SUBAL
FRAILE
SANTU MIALI
CHEREMULE
011
BADDE ELZANAS
TENNERO
NOCO
SASANIM
MATT'ARIGOZZA
MESUSES
CAMPU
RUMMIGOSU
SCALA CRABILE
RIU GIAVESU
RIU MANNU

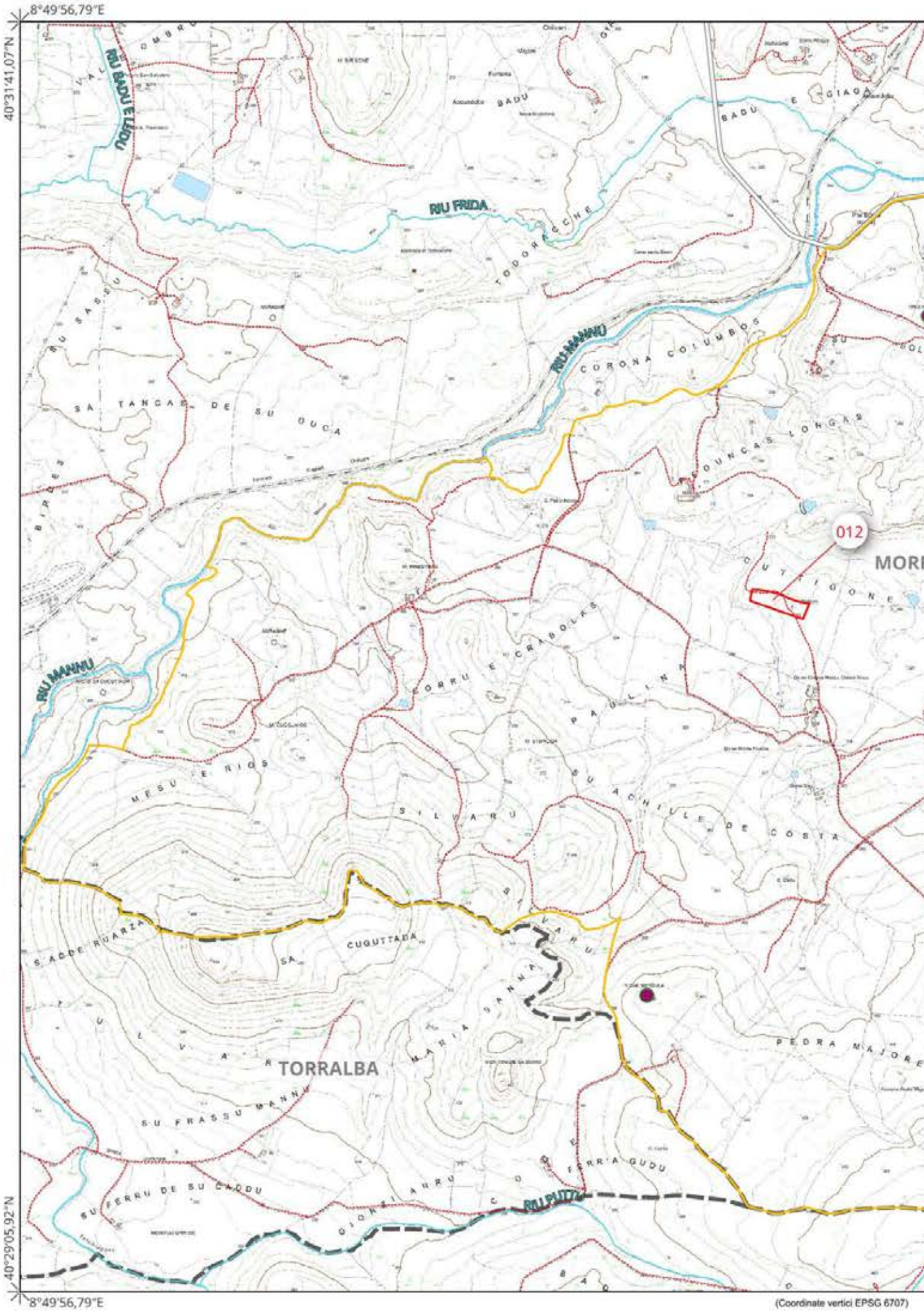

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 09 - 1
Boundaries of nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
011. Petroglyph Park, Cheremule
LEGENDA
Nominated Property
Proposed Buffer Zone
Prehistoric Cultural Heritage
Domus de janas
Necropoli a domus de janas
Other Cultural Heritage
Monumento medievale
Monumento nuragico
0 200 400 600 m
PRUNAIOLA
SANTA MARIA
PLANU BORGOLO
MONTE UNTURZU
SOS SILVARES
SU BARATTU
BAJANAS
SOS MOLINOS CADEDDU
GIAVE
CAMPU
SA PALA DE SA
STRADA STATALE CARLO FELICE N°131
Centrale Elettrica ENEL
8°45'52,61"E
40°28'12,15"N

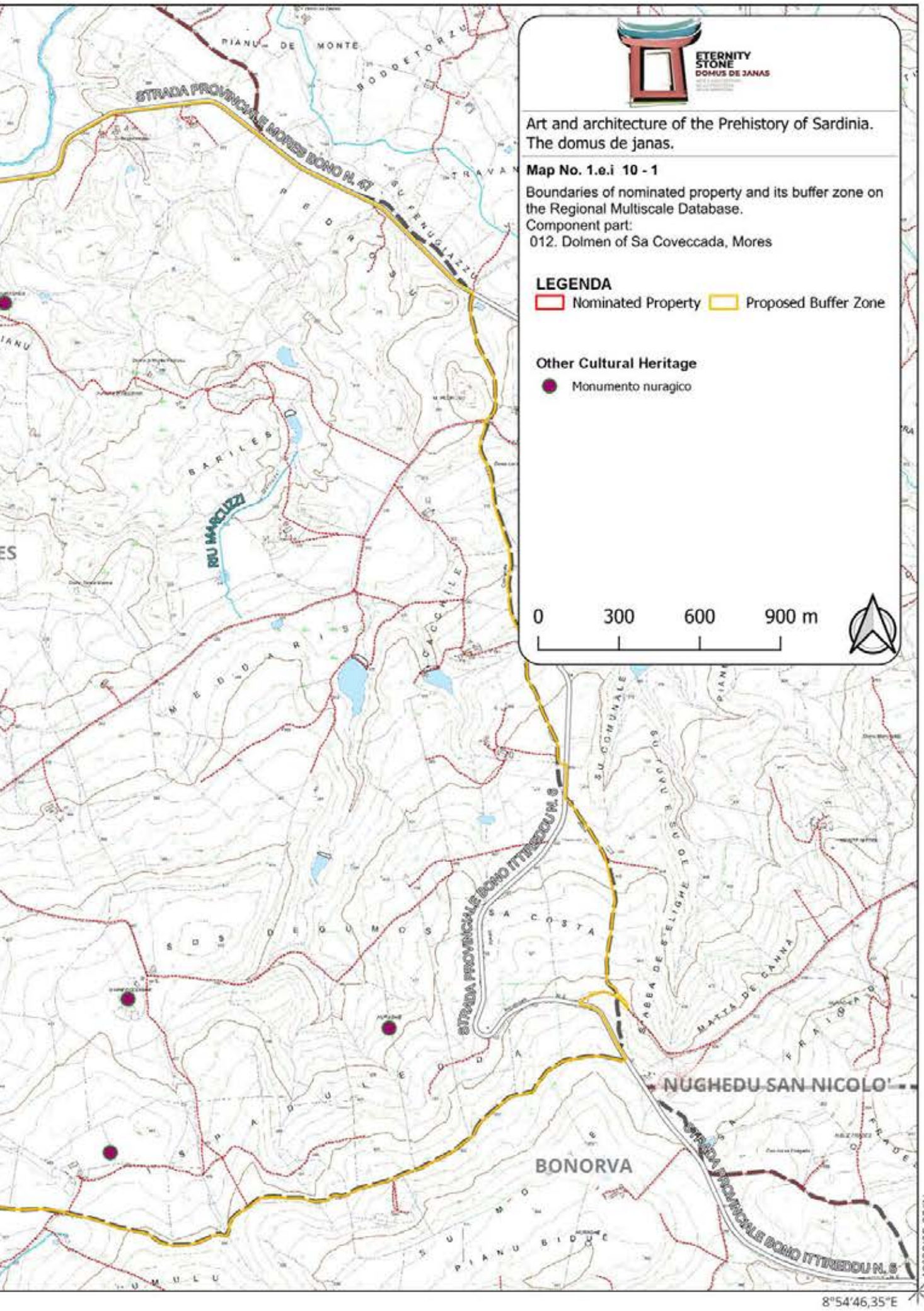

8°42'37,30"E
40°29'56,95"N
Ortofoto © AGEA
Tutti i diritti riservati
011
CHEREMULE
STRADA PROVINCIALE
Ortofoto © AGEA
Tutti i diritti riservati
40°28'12,15"N
8°42'37,30"E

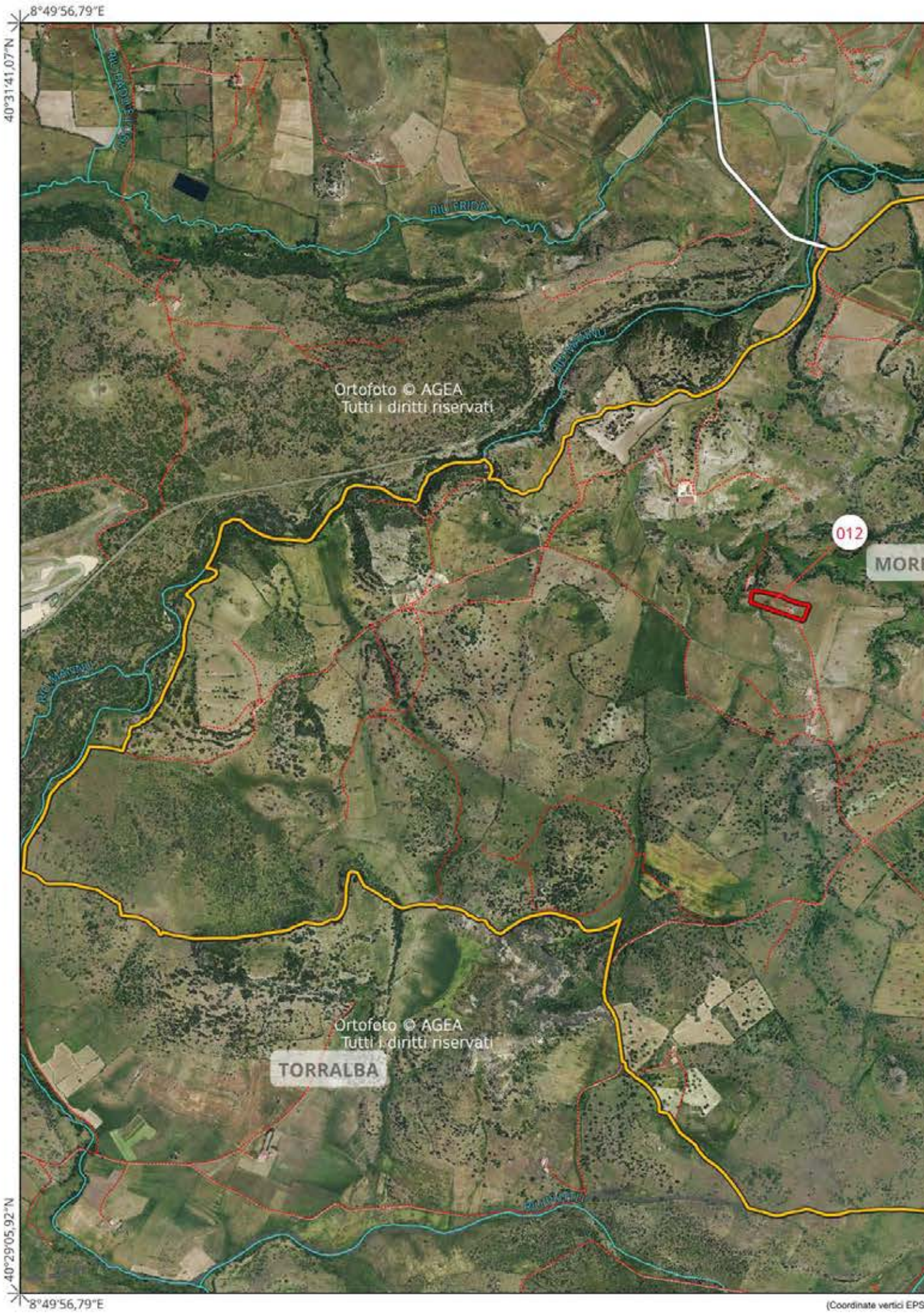

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 09 - 2
Boundaries of nominated property and its buffer zone on Ortofoto AGEA (ris. 20cm.).
Component part:
011. Petroglyph Parki, Cheremule
LEGENDA
Nominated Property
Proposed Buffer Zone
0 200 400 600 m
Ortofoto © AGEA
Tutti i diritti riservati
STRADA STATALE CARLO FELICE N. 131
RIO MURICHE
GIAVE
40°28'12,15"N
8°45'52,61"E

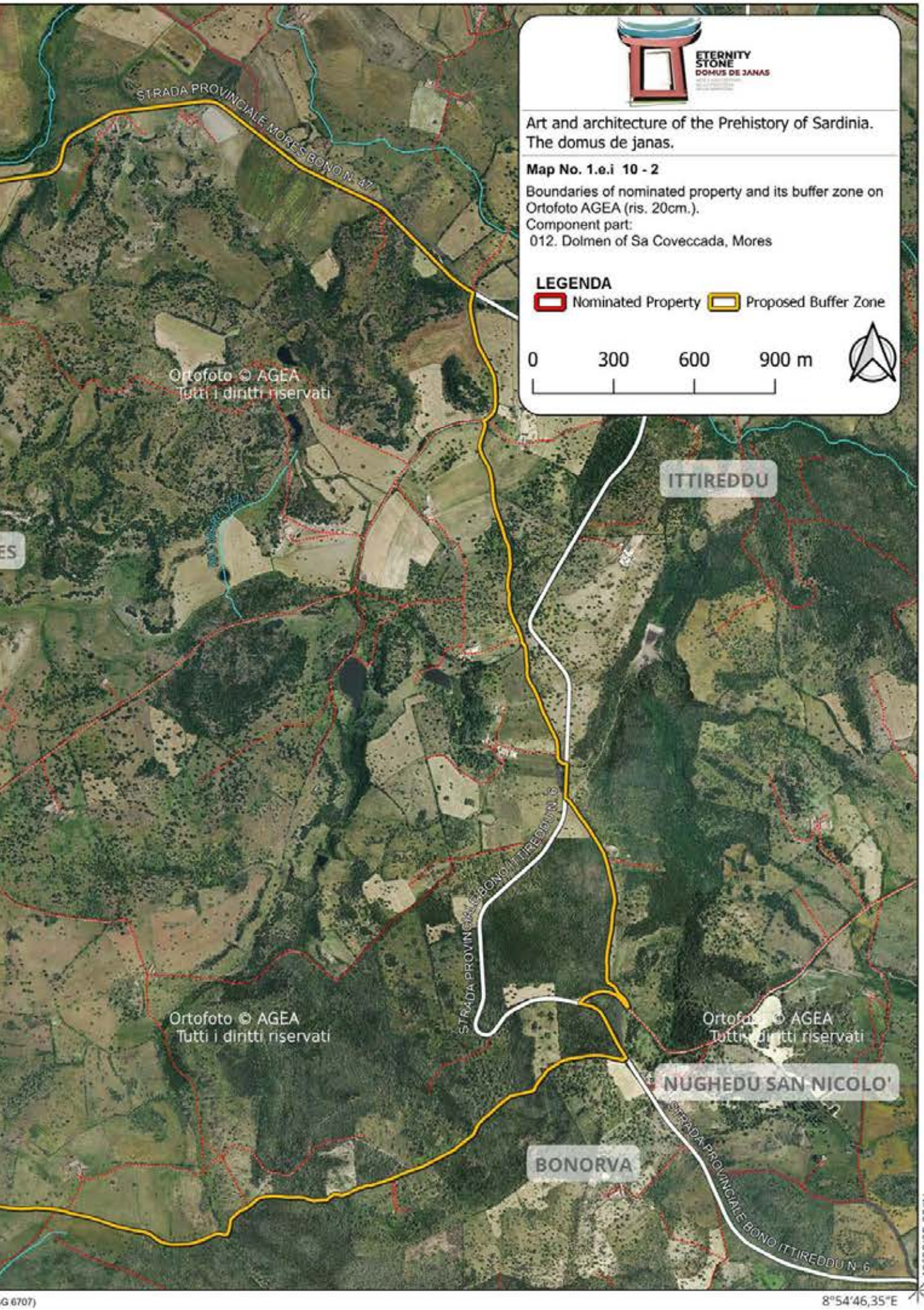

8°42'49,97"E
40°29'35,76"N
Archaeological Map
I
IX
XVIII
XVI
XI
XII
XIII
III
II
IV
V
40°28'58,76"N
8°42'49,97"E

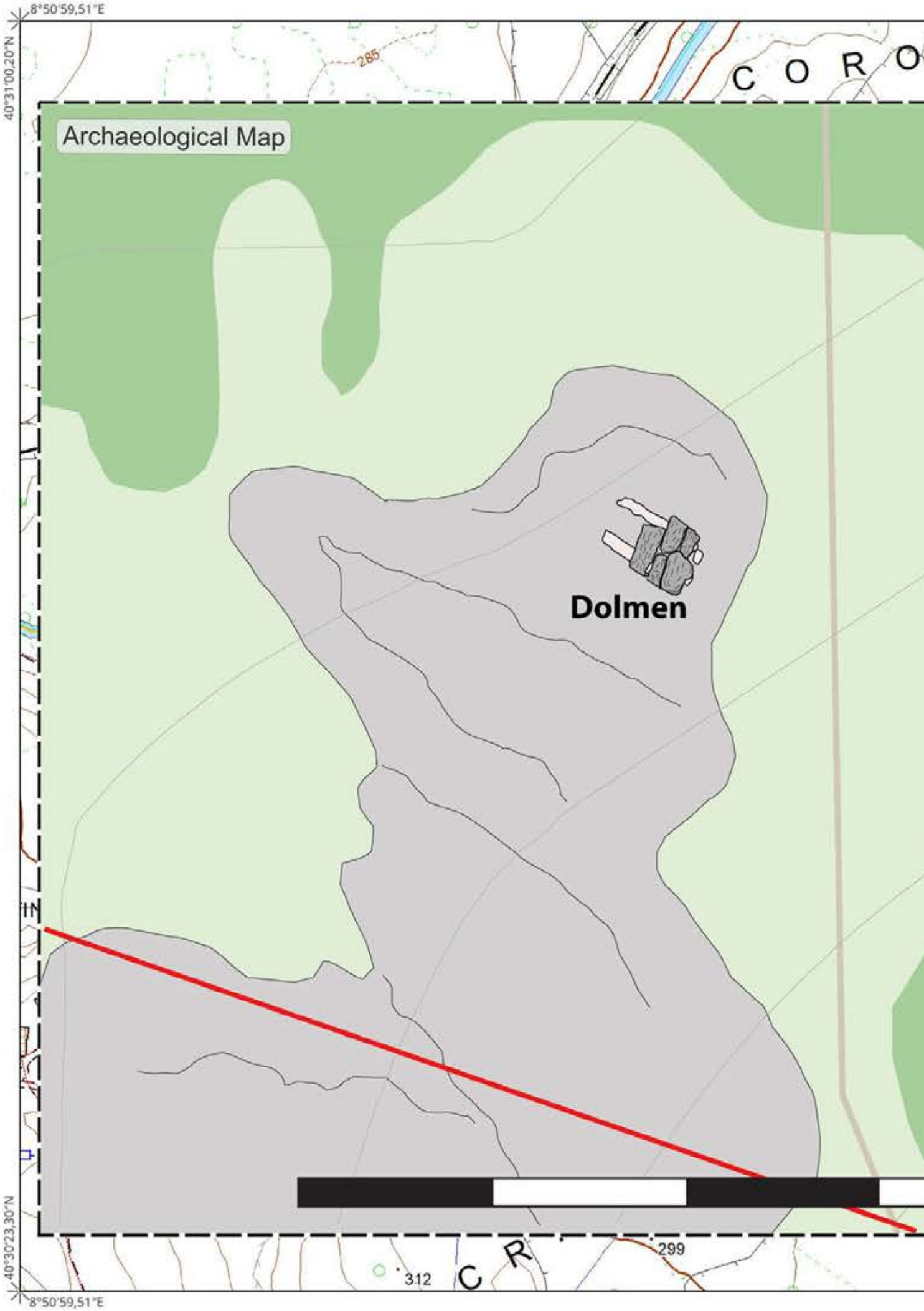

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 09 - a
Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
011. Petroglyph Park, Cheremule
LEGENDA
Nominated Property
Proposed Buffer Zone
Detail of Archaeological Map
Monuments
0
80
160
240 m
458
450
442
433
431
422
439
CHEREMULE
ASGIAGA
MIALI
BADDE ELZANAS
NERO
VIII
XVII
XV
XIV
VII
100 m
40°28'58,76"N
8°43'58,93"E

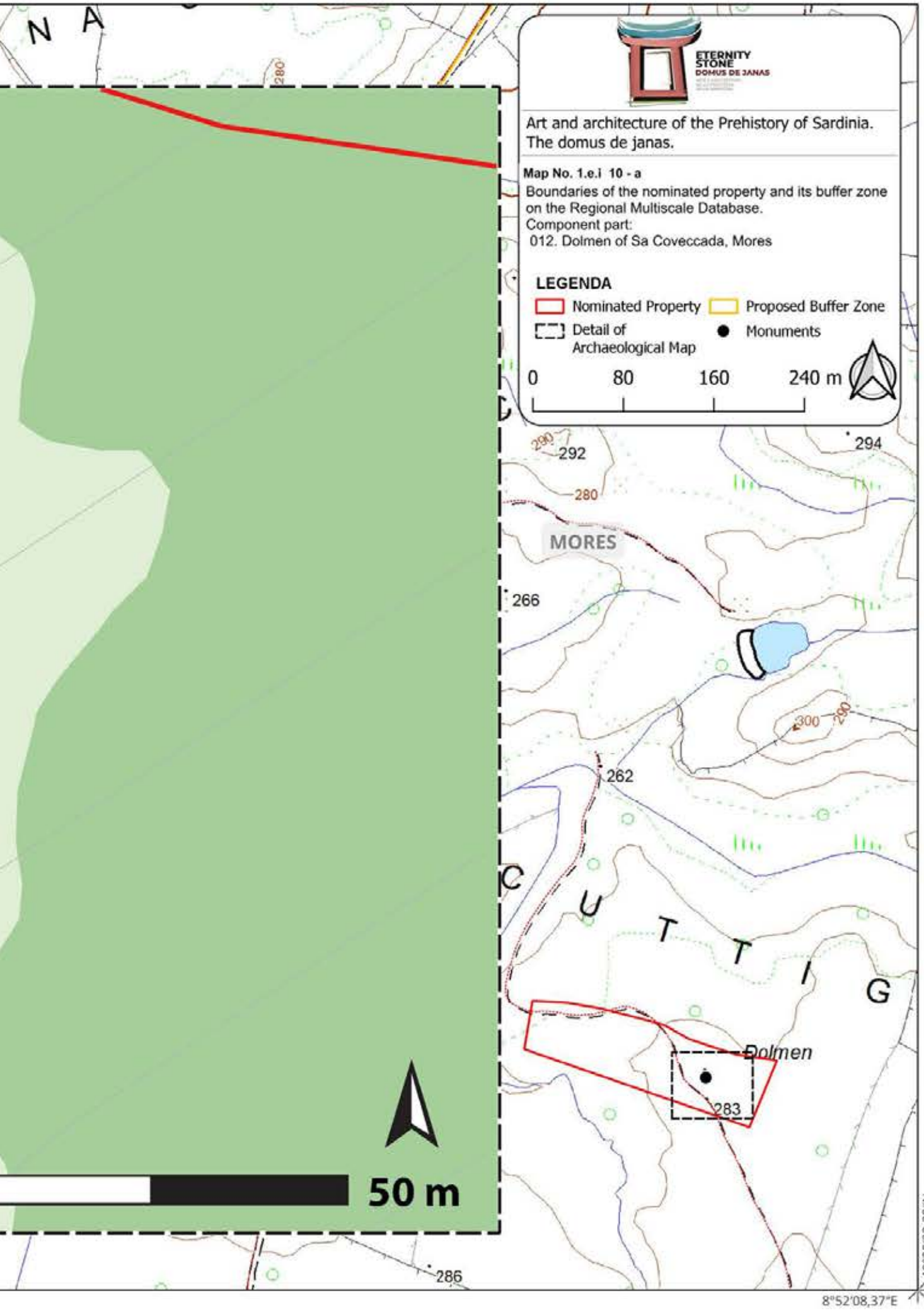

8°49'56,79"E
40°31'41,07"N
40°29'05,92"N
8°49'56,79"E
(Coordinate vertici EPSG 6707)
012
RIU BADU ETTORI
RIU FRIDA
RIU MANNU
TORRALBA
CUGUTTADA
SA TANCA DE SU DUCA
CORRU E CRABOLAS
MESU E RIOS
SILVARU
SU ACHILLE DE COSTA
PEDRA MAJORE
SU FRASSU BANNU
SU FERRU DE SU CADDU
RIU PUTZU

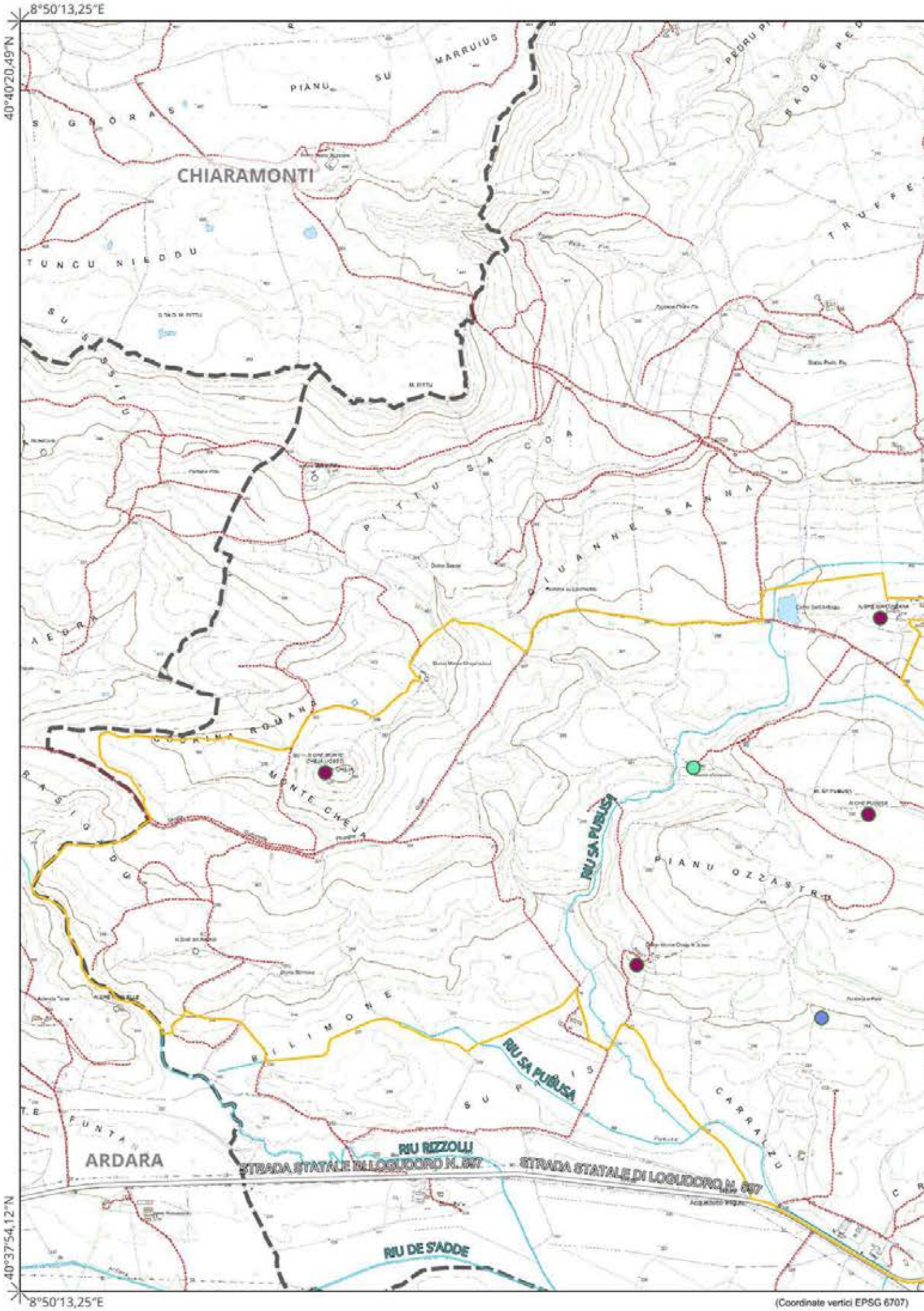

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 10 - 1
Boundaries of nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
012. Dolmen of Sa Coveccada, Mores
LEGENDA
Nominated Property
Proposed Buffer Zone
Other Cultural Heritage
Monumento nuragico
0
300
600
900 m
STRADA PROVINCIALE MORES BONO N. 47
RIU MARCUZZI
STRADA PROVINCIALE BONO ITTIREDDU N. 6
NUGHEDU SAN NICOLO'
BONORVA
40°29'05,92"N
8°54'46,35"E

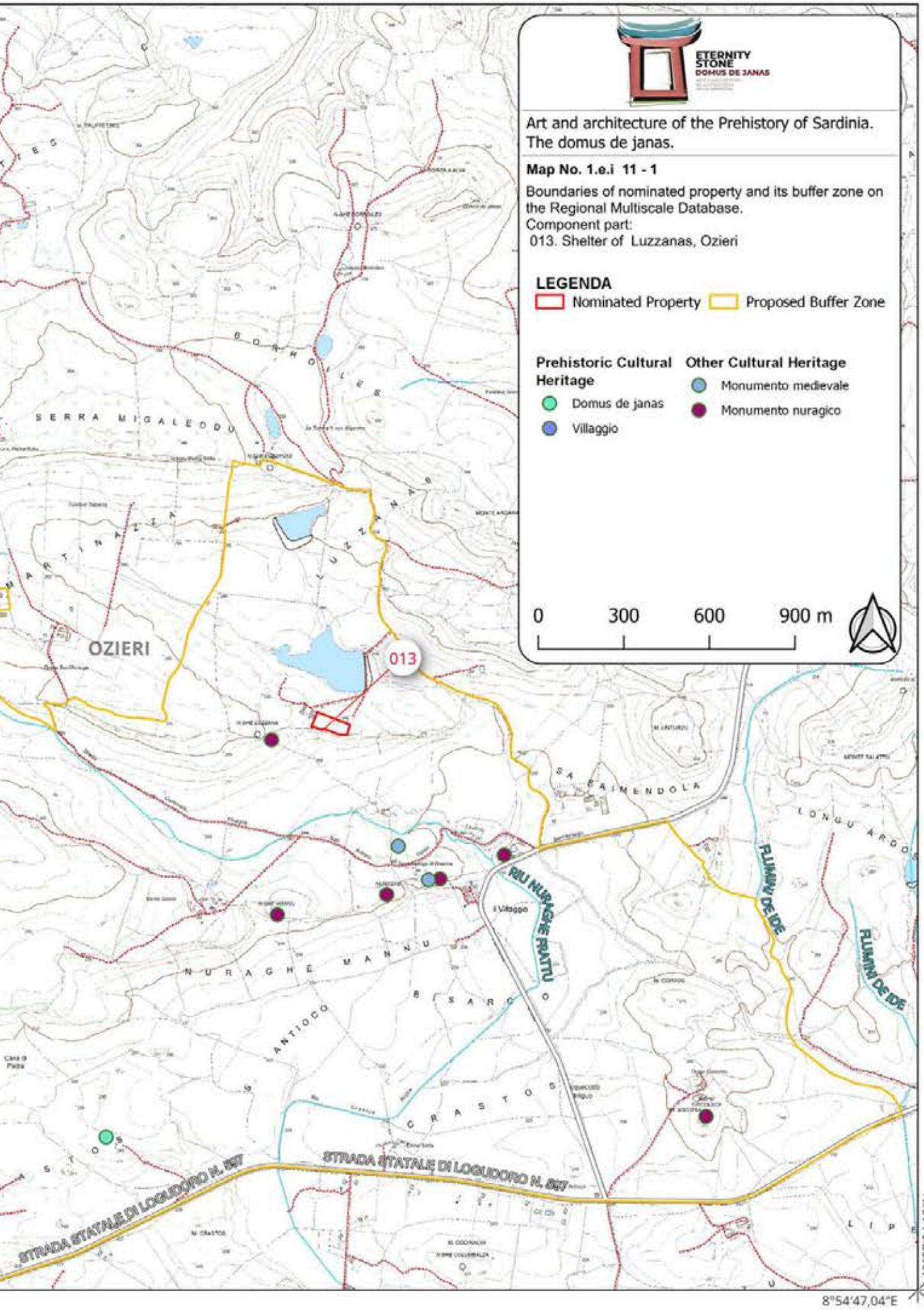

8°49'56,79"E
40°31'41,07"N
RIU FRIOA
Ortofoto © AGEA
Tutti i diritti riservati
012
MORI
Ortofoto © AGEA
Tutti i diritti riservati
TORRALBA
40°29'05,92"N
8°49'56,79"E
(Coordinate vertici EPS

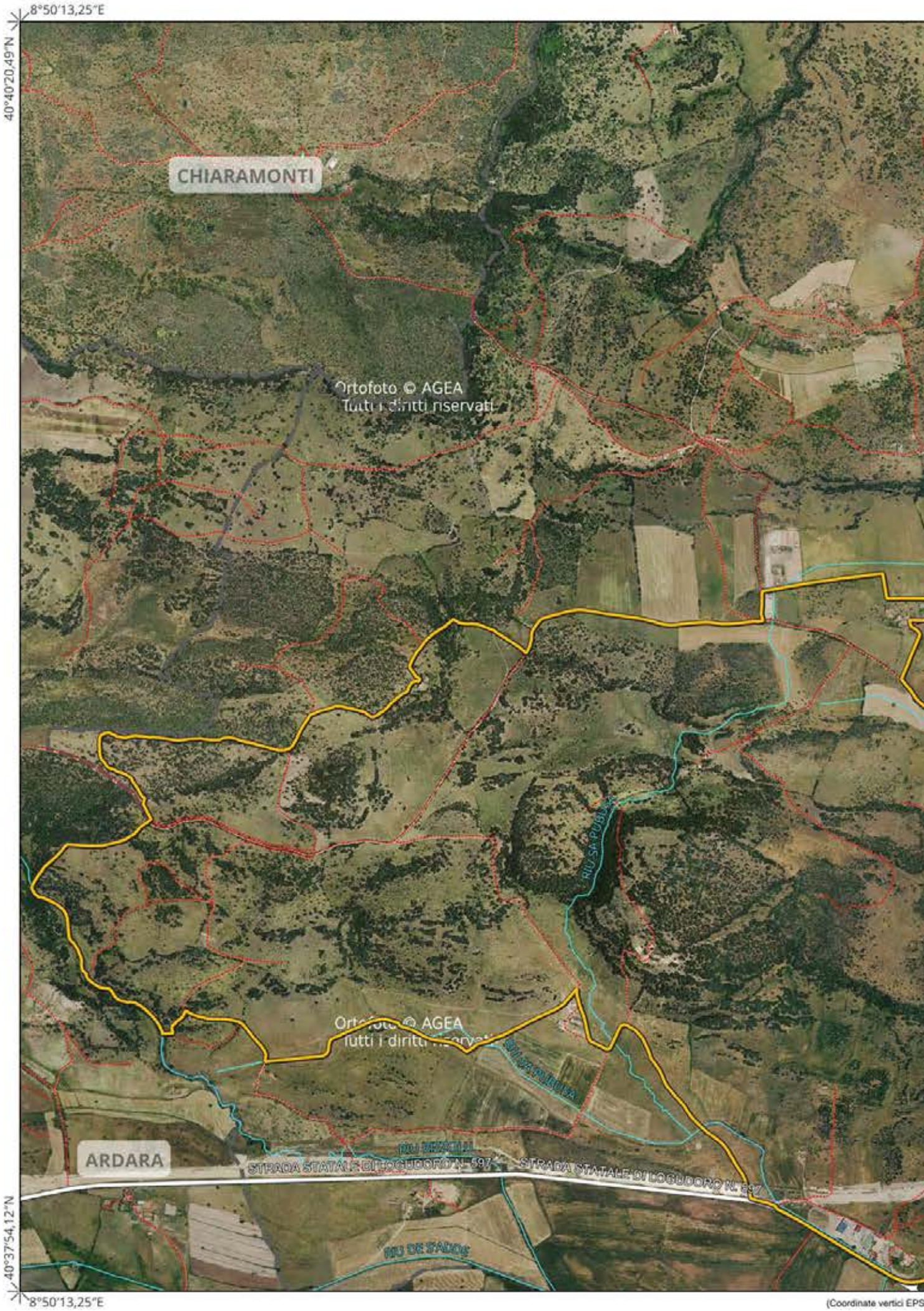

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 10 - 2
Boundaries of nominated property and its buffer zone on Ortofoto AGEA (ris. 20cm.).
Component part:
012. Dolmen of Sa Coveccada, Mores
LEGENDA
Nominated Property
Proposed Buffer Zone
0
300
600
900 m
STRADA PROVINCIALE MORES BONO N. 47
Ortofoto © AGEA
Tutti i diritti riservati
ITTIREDDU
STRADA PROVINCIALE BONO ITTIREDDU N. 6
NUGHEDU SAN NICOLO'
BONORVA
40°29'05,92"N
8°54'46,35"E

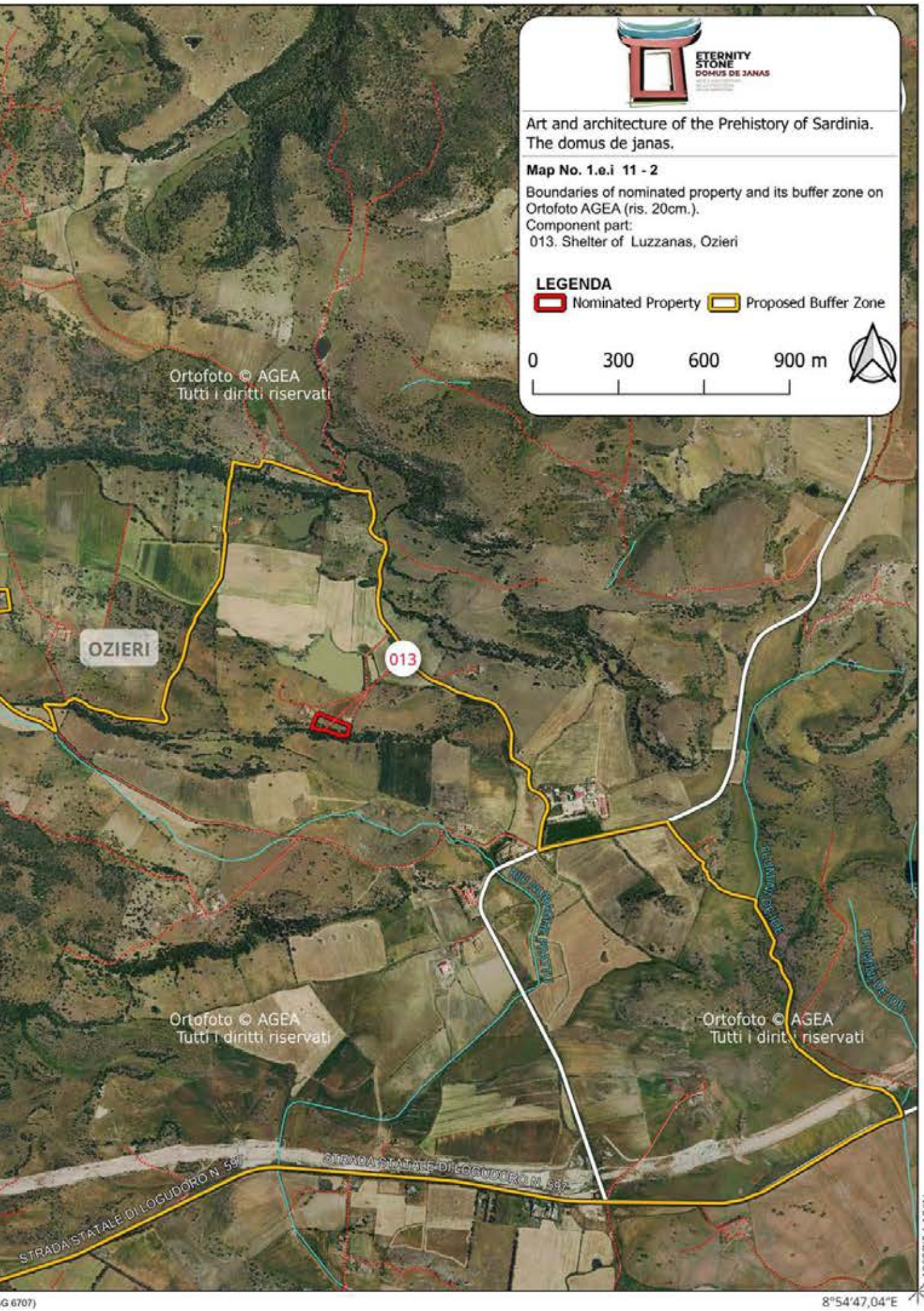

8°50'59,51"E
40°31'00,20"N
285
C O R O
Archaeological Map
Dolmen
40°30'23,30"N
8°50'59,51"E
312
C R
299

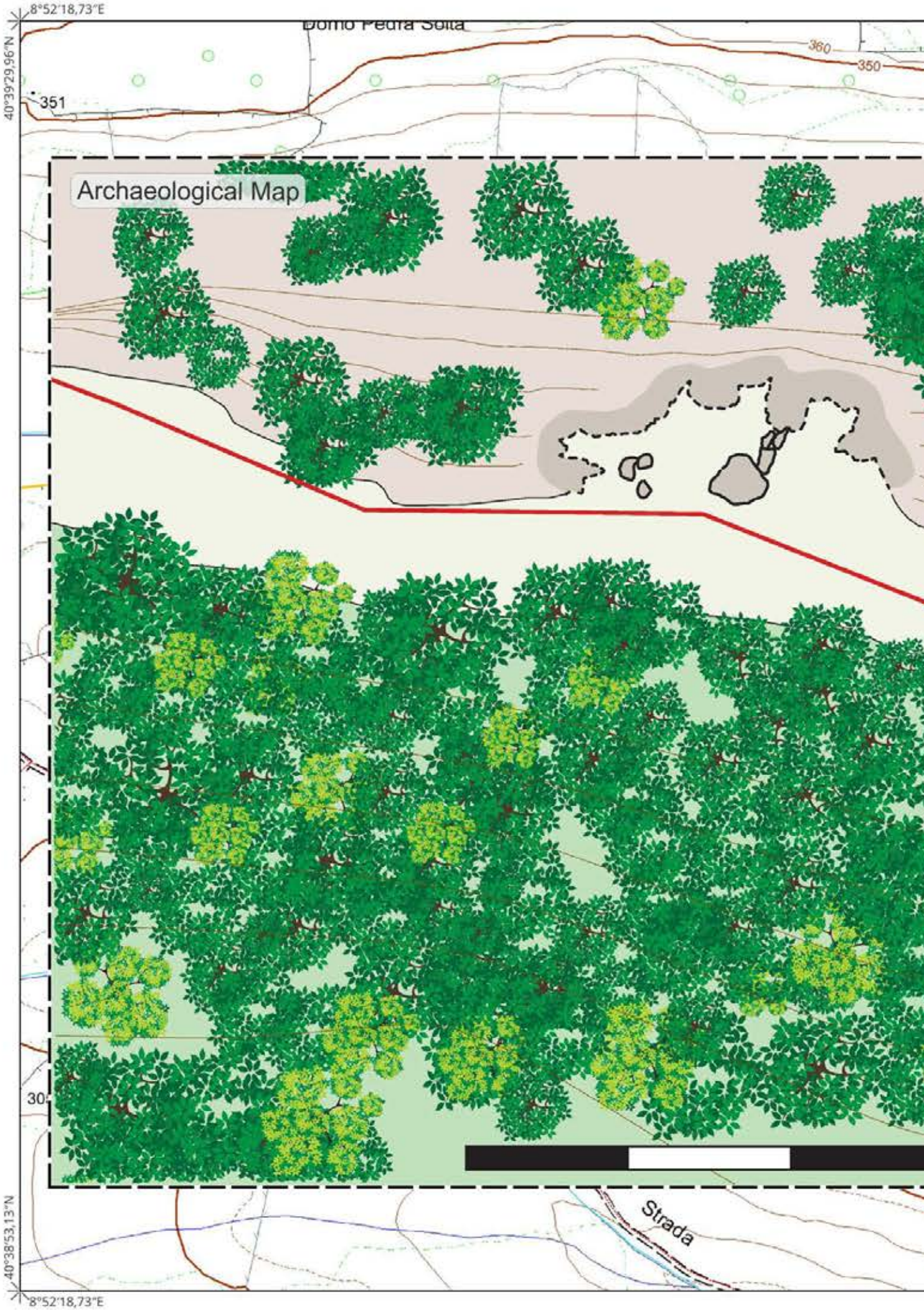

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 10 - a
Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
012. Dolmen of Sa Coveccada, Mores
LEGENDA
Nominated Property
Proposed Buffer Zone
Detail of Archaeological Map
Monuments
0 80 160 240 m
MORES
Dolmen
283
50 m
8°52'08,37"E
40°30'23,30"N

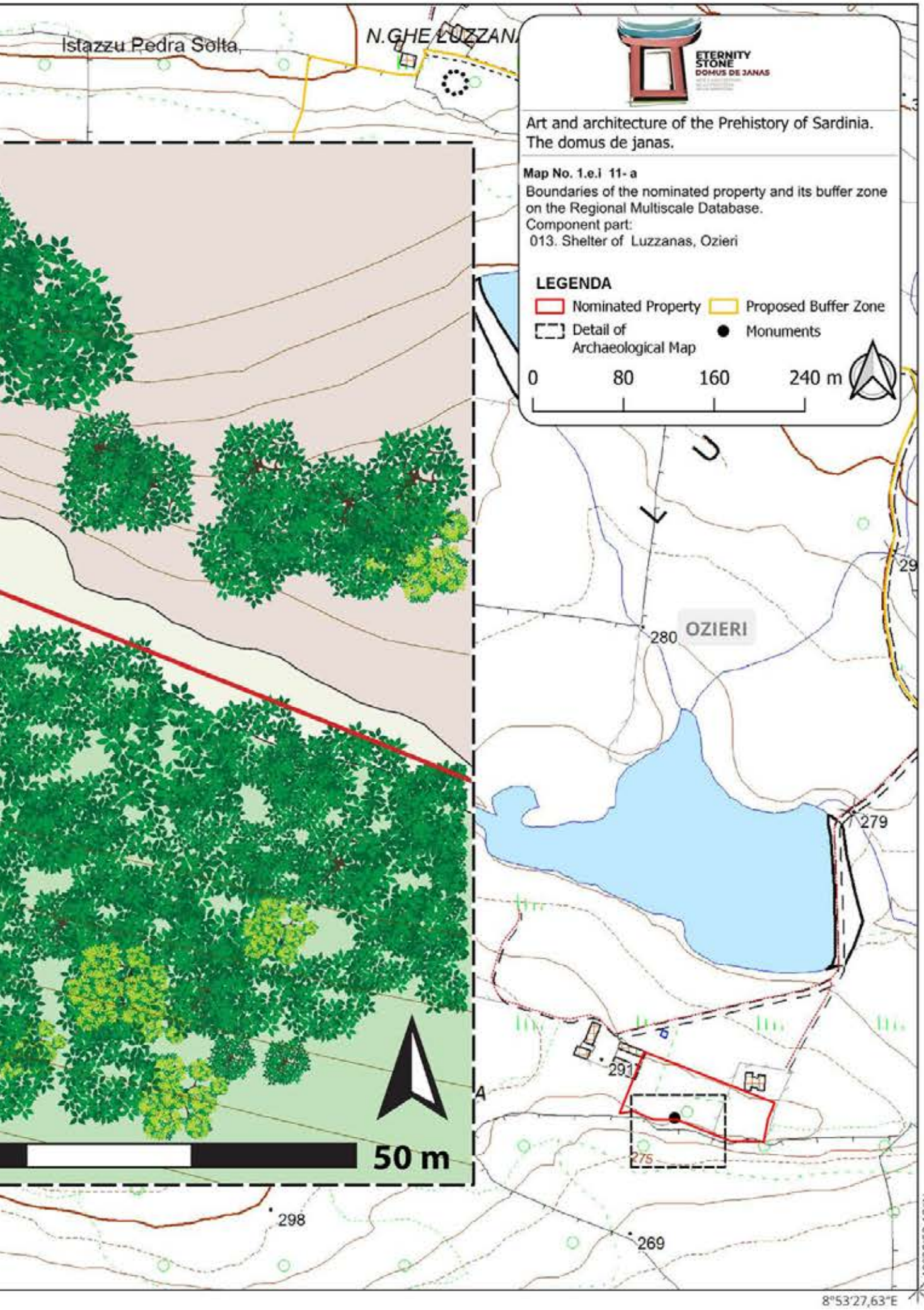

8°50'13,25"E
40°40'20,49"N
CHIARAMONTI
PIANU SU MARRUIUS
TUNCU NIEDDU
PITTU SA COA
MONTE CHEJA
RIU SA PUBUSA
PIANU OZZASTRU
RIU SA PUBUSA
RIU RIZZOLI
STRADA STATALE DI LOGUDORO N. 597
STRADA STATALE DI LOGUDORO N. 597
ARDARA
RIU DE S'ADDE
40°37'54,12"N
8°50'13,25"E
(Coordinate vertici EPSG 6707)

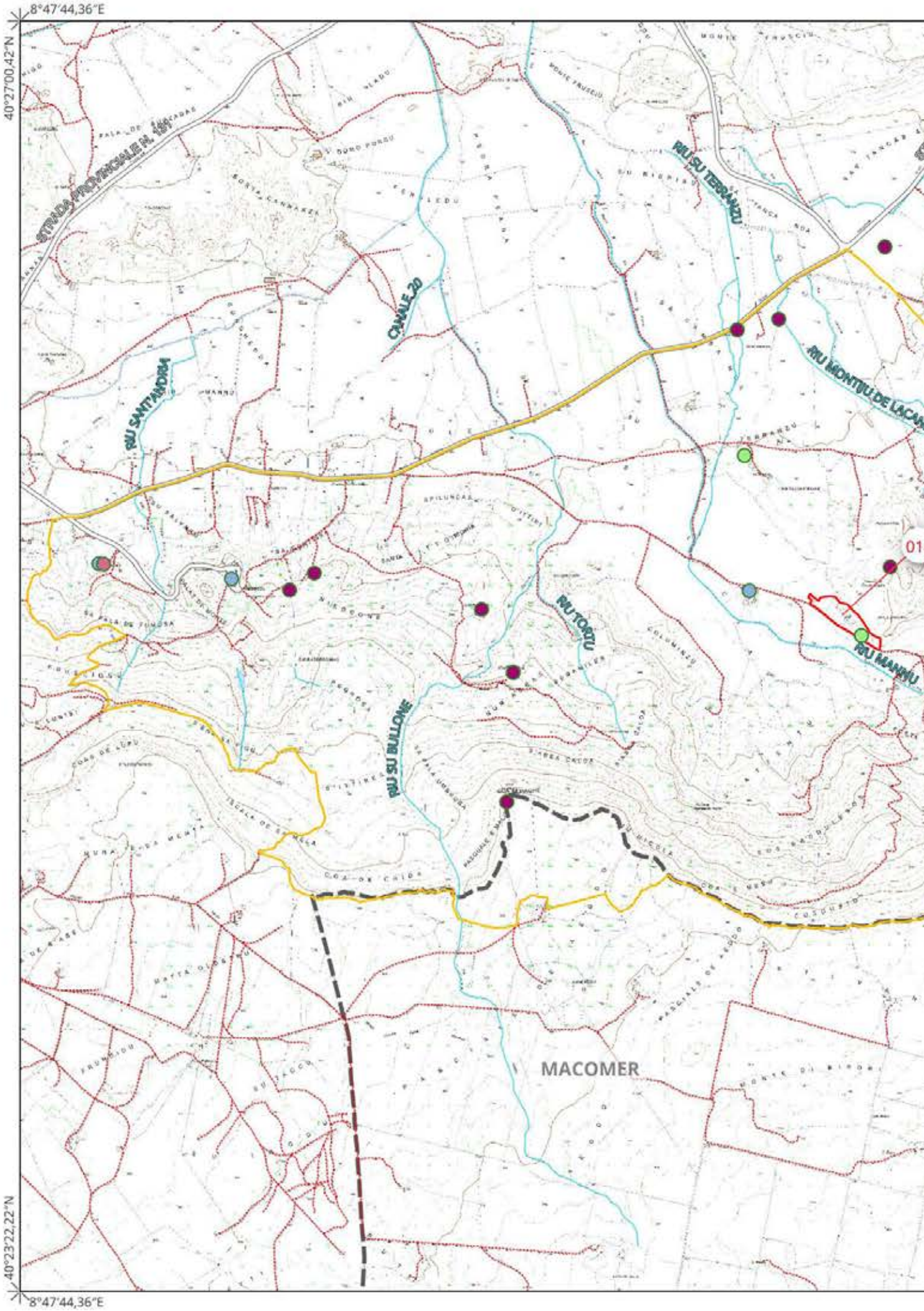

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 11 - 1
Boundaries of nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
013. Shelter of Luzzanas, Ozieri
LEGENDA
Nominated Property
Proposed Buffer Zone
Prehistoric Cultural Heritage
Domus de janas
Villaggio
Other Cultural Heritage
Monumento medievale
Monumento nuragico
0
300
600
900 m
OZIERI
013
SERRA MIGALEDDU
BORRIOLES
LUNTAS
MARTINALZA
SA FAIMENDOLA
LONGU ARGO
RIU NURAGHE FRATTU
FLUMINI DE IDE
NURAGHE MANNU
ANTIOCO
BISARCIO
CRASTOS
STRADA STATALE DI LOGUDORO N. 597
STRADA STATALE DI LOGUDORO N. 597
40°37'54,12"N
8°54'47,04"E

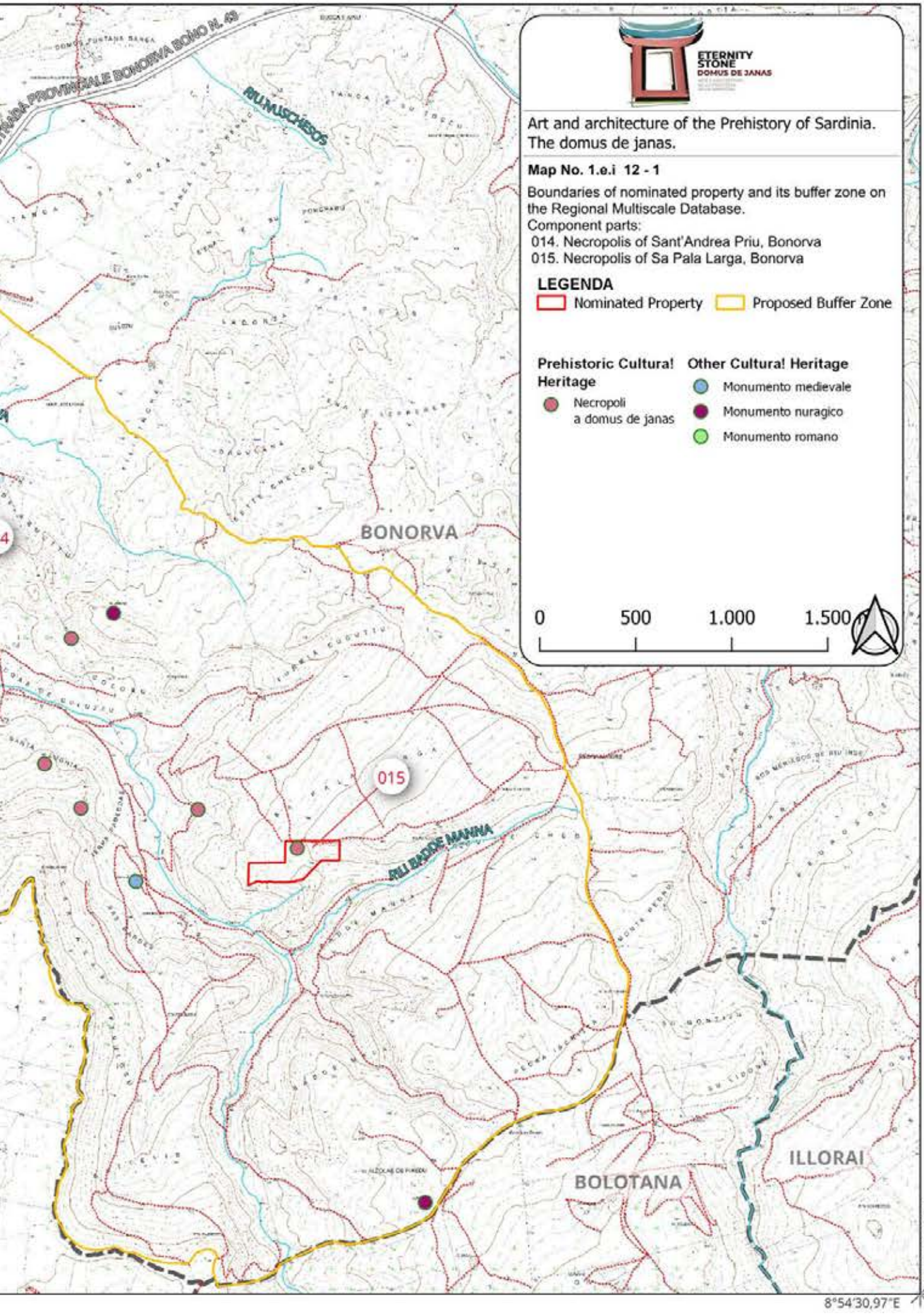

8°50'13,25"E
40°40'20,49"N
CHIARAMONTI
Ortofoto © AGEA
Tutti i diritti riservati
ARDARA
STRADA STATALE DI LOGUDORO N. 597
40°37'54,12"N
8°50'13,25"E

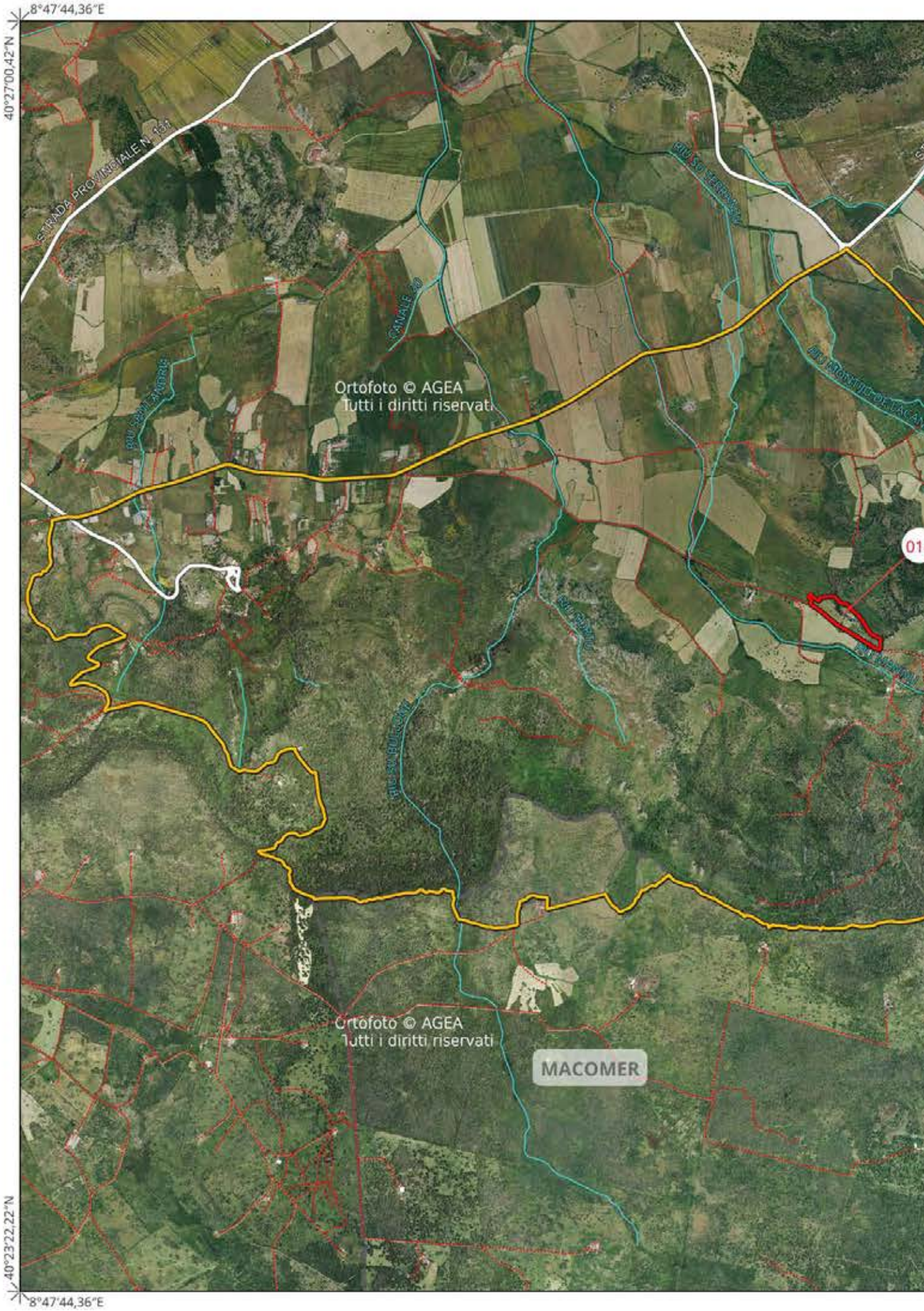

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 11 - 2
Boundaries of nominated property and its buffer zone on Ortofoto AGEA (ris. 20cm.).
Component part:
013. Shelter of Luzzanas, Ozieri
LEGENDA
Nominated Property
Proposed Buffer Zone
0
300
600
900 m
Ortofoto © AGEA
Tutti i diritti riservati
OZIERI
013
Ortofoto © AGEA
Tutti i diritti riservati
Ortofoto © AGEA
Tutti i diritti riservati
STRADA STATALE DI LOGUDORO N. 597
STRADA STATALE DI LOGUDORO N. 597
40°37'54,12"N
8°54'47,04"E

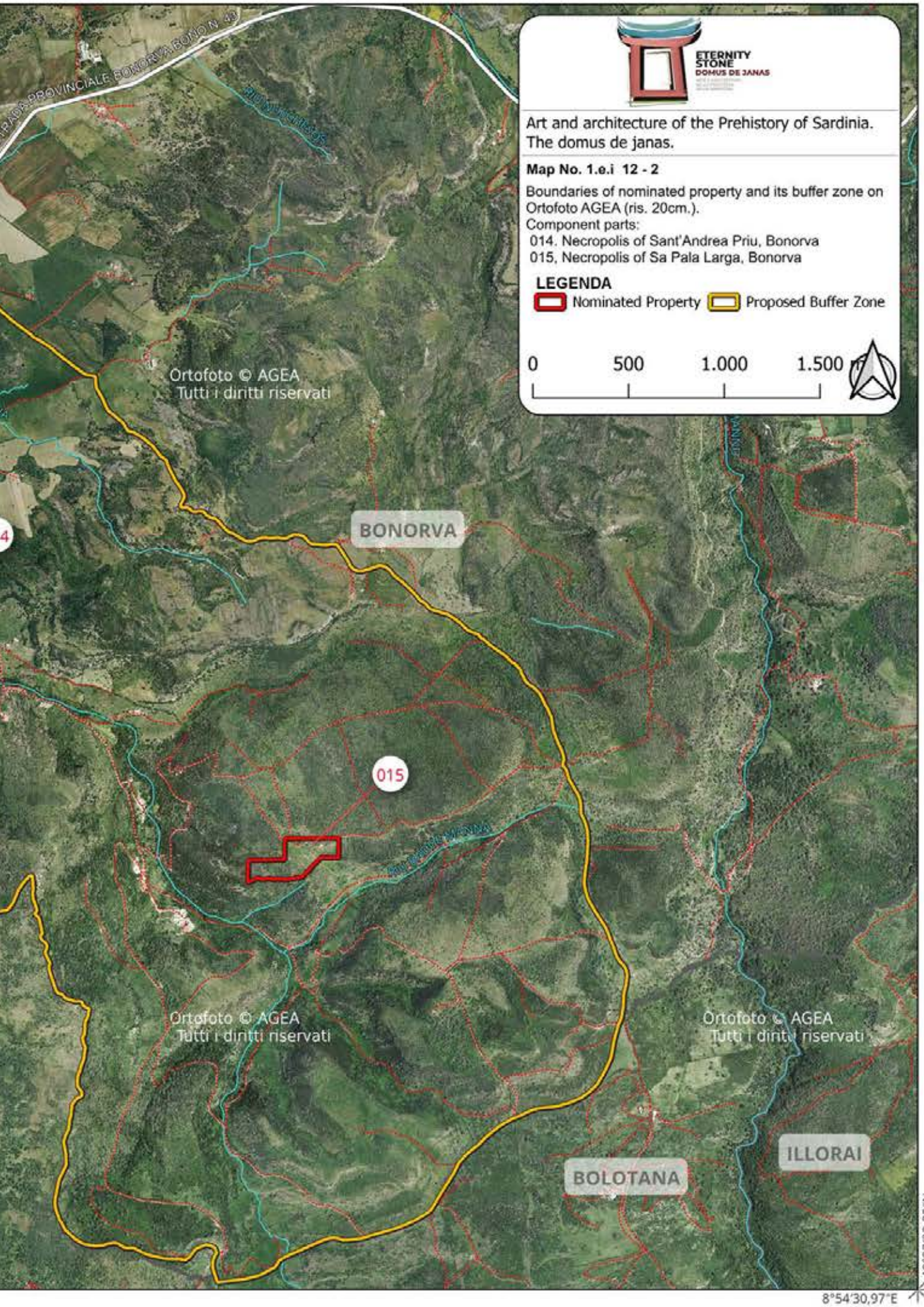

8°52'18,73"E
Domo Pedra Solta
360
350
351
40°39'29,96"N
Archaeological Map
30
Strada
40°38'53,13"N
8°52'18,73"E

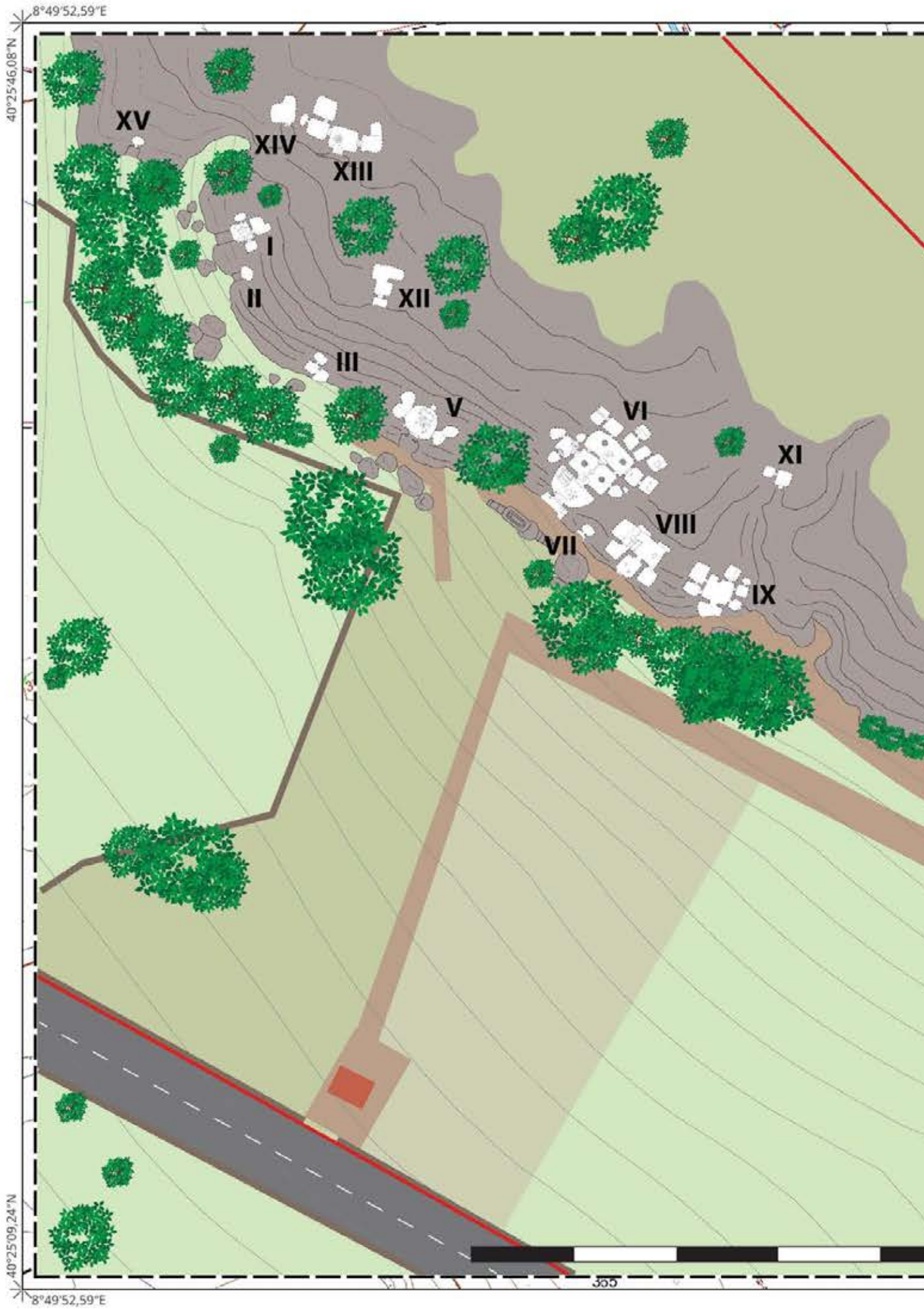

Istazzu Pedra Solta
N.GHE LUZZANA
ETERNITY STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 11- a
Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
013. Shelter of Luzzanas, Ozieri
LEGENDA
Nominated Property
Proposed Buffer Zone
Detail of Archaeological Map
Monuments
0
80
160
240 m
OZIERI
280
279
291
275
298
269
50 m
40°38'53,13"N
8°53'27,63"E

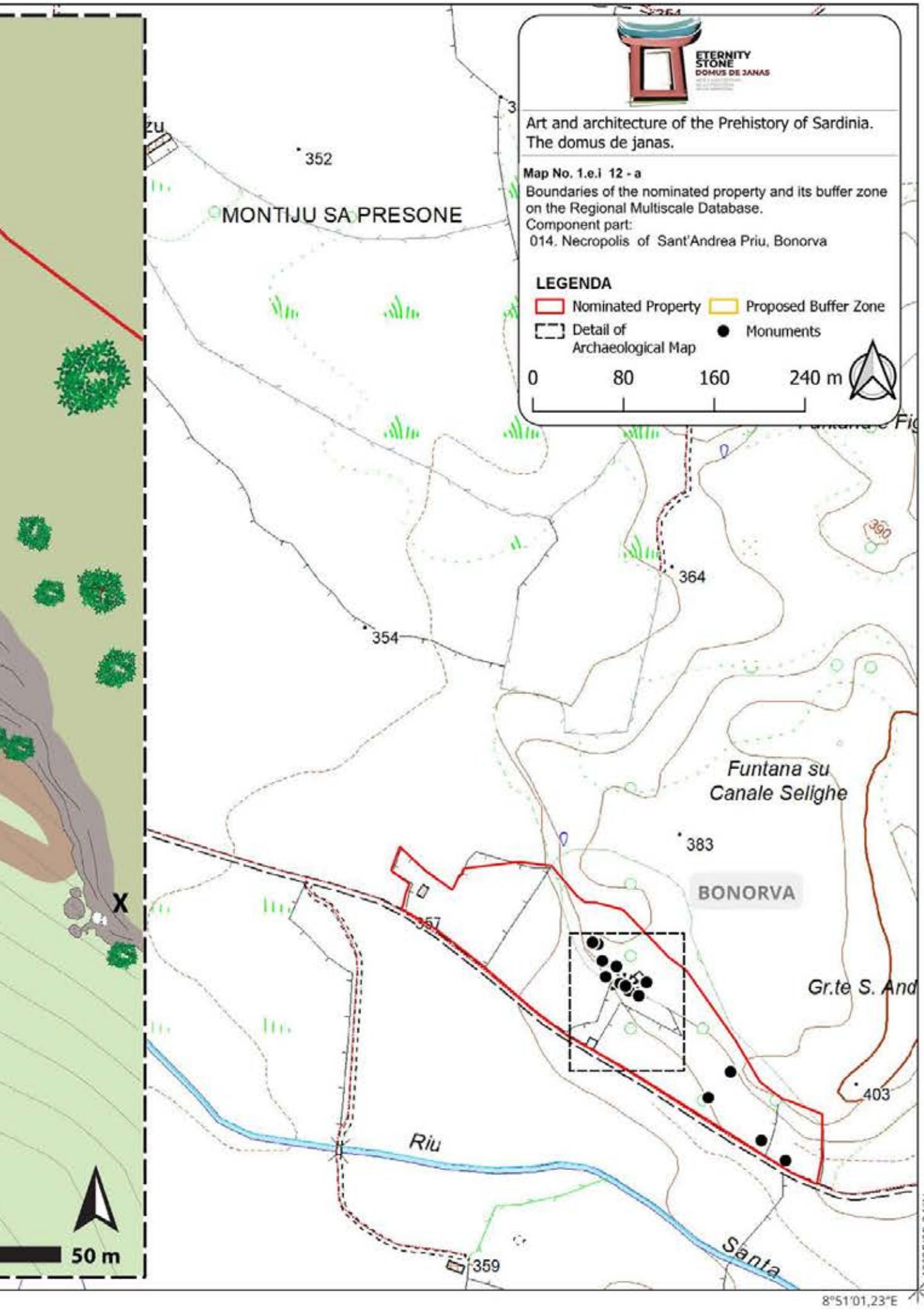

8°47'44,36"E
40°27'00,42"N
40°23'22,22"N
8°47'44,36"E
STRADA PROVINCIALE N. 49
CANALE 20
RIU SANTANDRIA
RIU SU TERRÀNZU
RIU MONTIJU DE LACA
RIU TORTU
RIU SU BULLONE
RIU MANNU
MACOMER

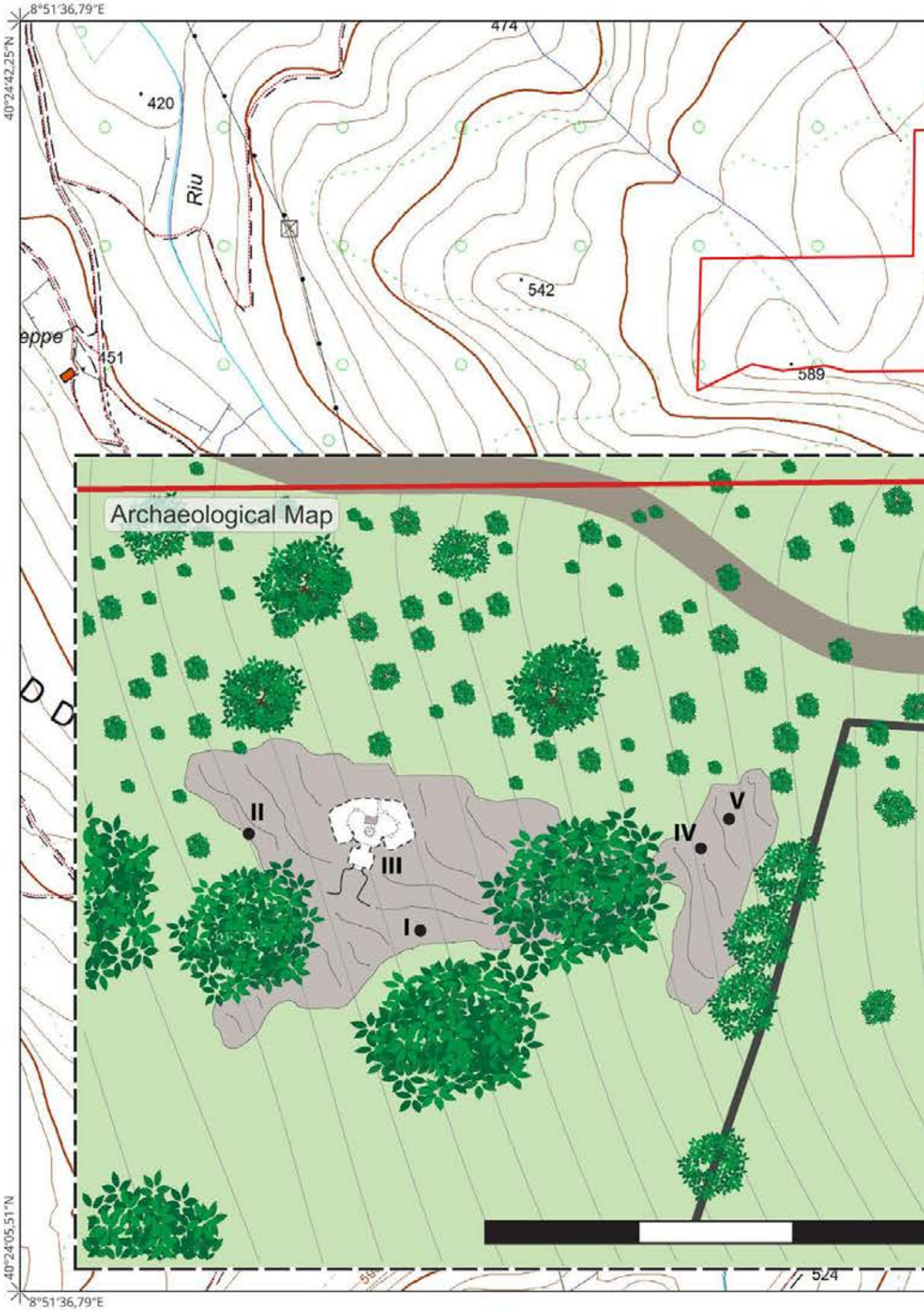

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 12 - 1
Boundaries of nominated property and its buffer zone on the Regional Multiscale Database.
Component parts:
014. Necropolis of Sant'Andrea Priu, Bonorva
015. Necropolis of Sa Pala Larga, Bonorva
LEGENDA
Nominated Property
Proposed Buffer Zone
Prehistoric Cultural Heritage
Necropoli a domus de janas
Other Cultural Heritage
Monumento medievale
Monumento nuragico
Monumento romano
0
500
1.000
1.500
BONORVA
015
BOLOTANA
ILLORAI
8°54'30,97"E
40°23'22,22"N

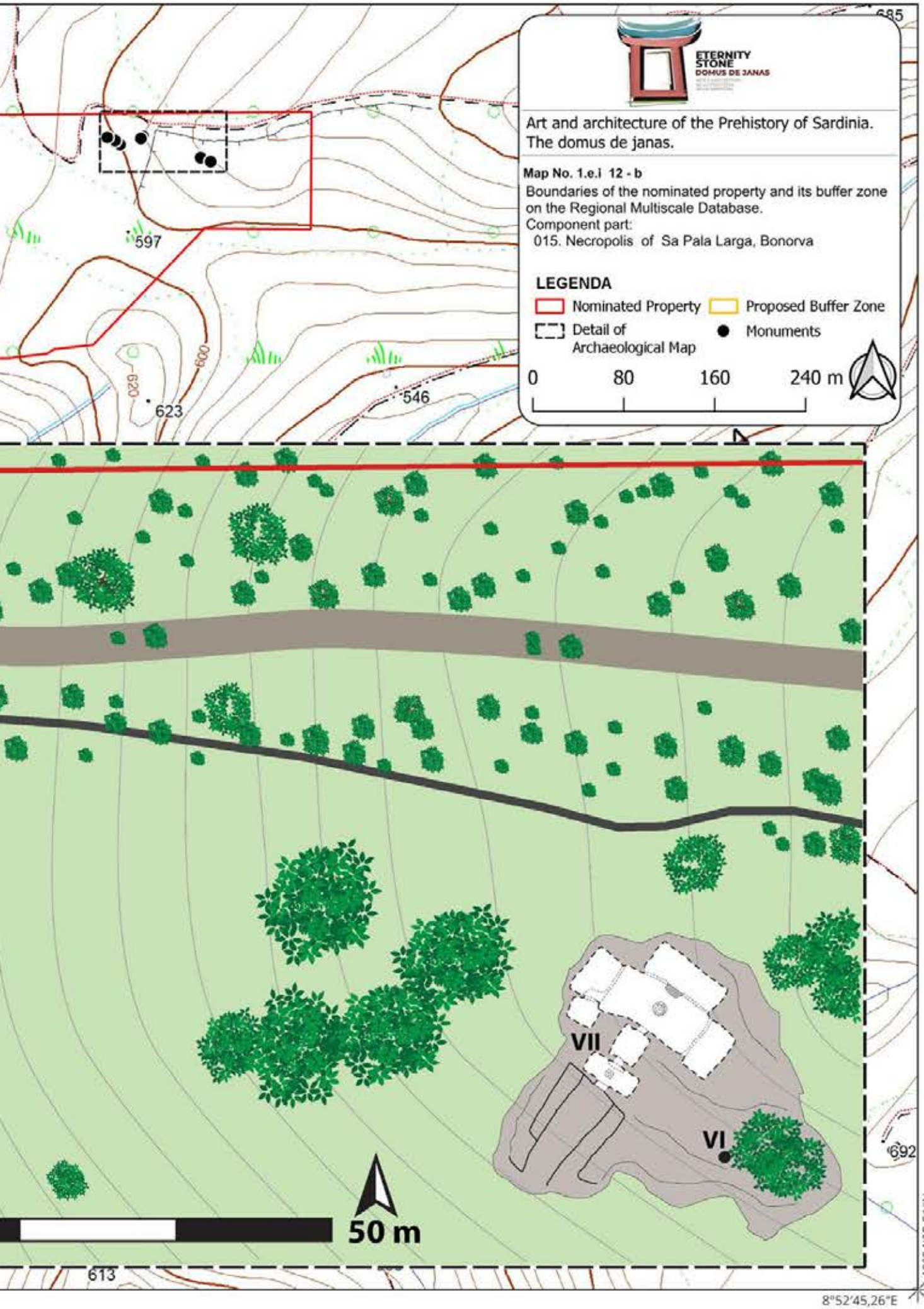

8°47'44,36"E
40°27'00,42"N
40°23'22,22"N
8°47'44,36"E
STRADA PROVINCIALE N. 131
CANALE 20
Ortofoto © AGEA
Tutti i diritti riservati
01
Ortofoto © AGEA
Tutti i diritti riservati
MACOMER

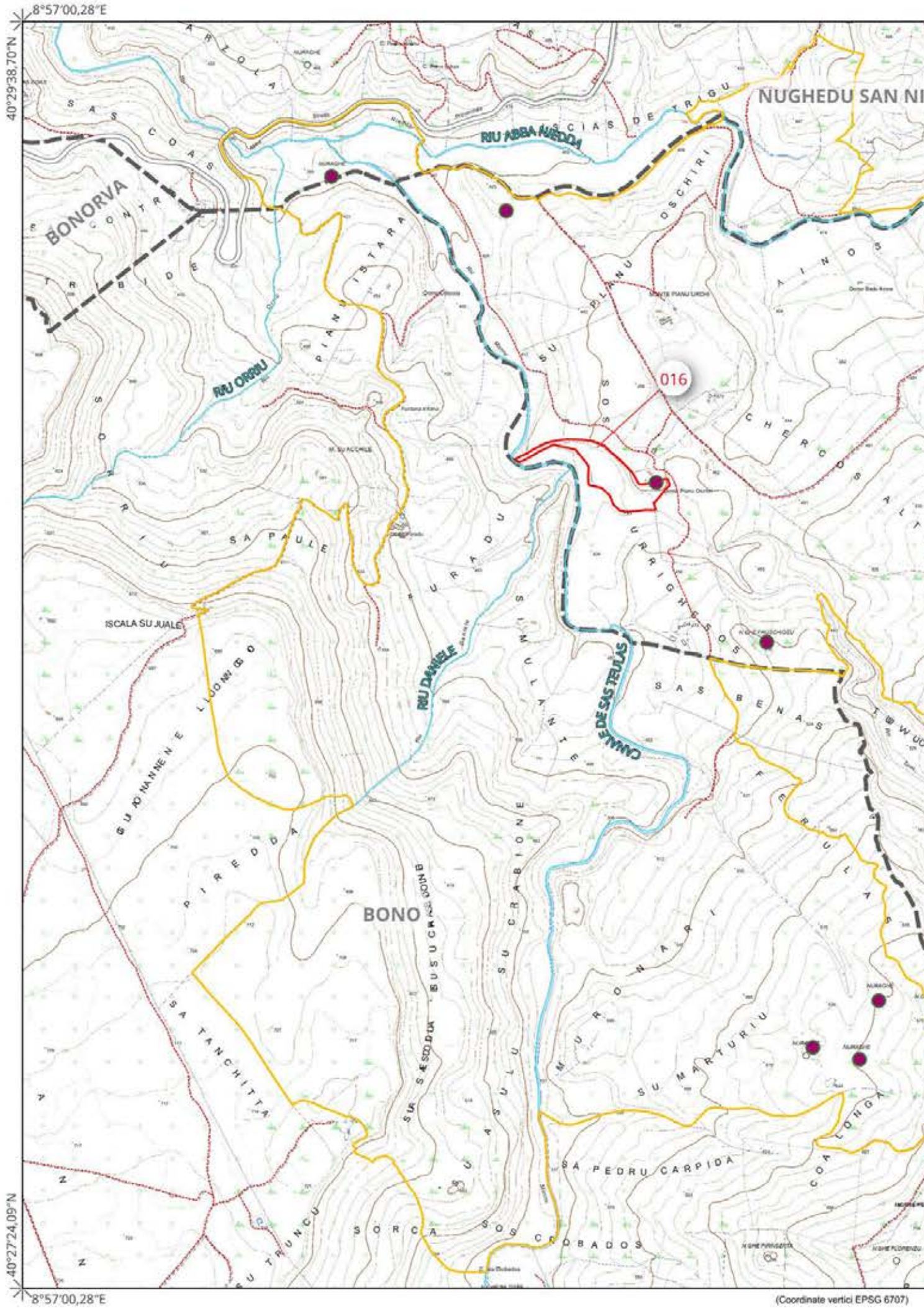

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 12 - 2
Boundaries of nominated property and its buffer zone on Ortofoto AGEA (ris. 20cm.).
Component parts:
014. Necropolis of Sant'Andrea Priu, Bonorva
015, Necropolis of Sa Pala Larga, Bonorva
LEGENDA
Nominated Property
Proposed Buffer Zone
0
500
1.000
1.500
Ortofoto © AGEA
Tutti i diritti riservati
BONORVA
015
Ortofoto © AGEA
Tutti i diritti riservati
Ortofoto © AGEA
Tutti i diritti riservati
ILLORAI
BOLOTANA
40°23'22,22"N
8°54'30,97"E

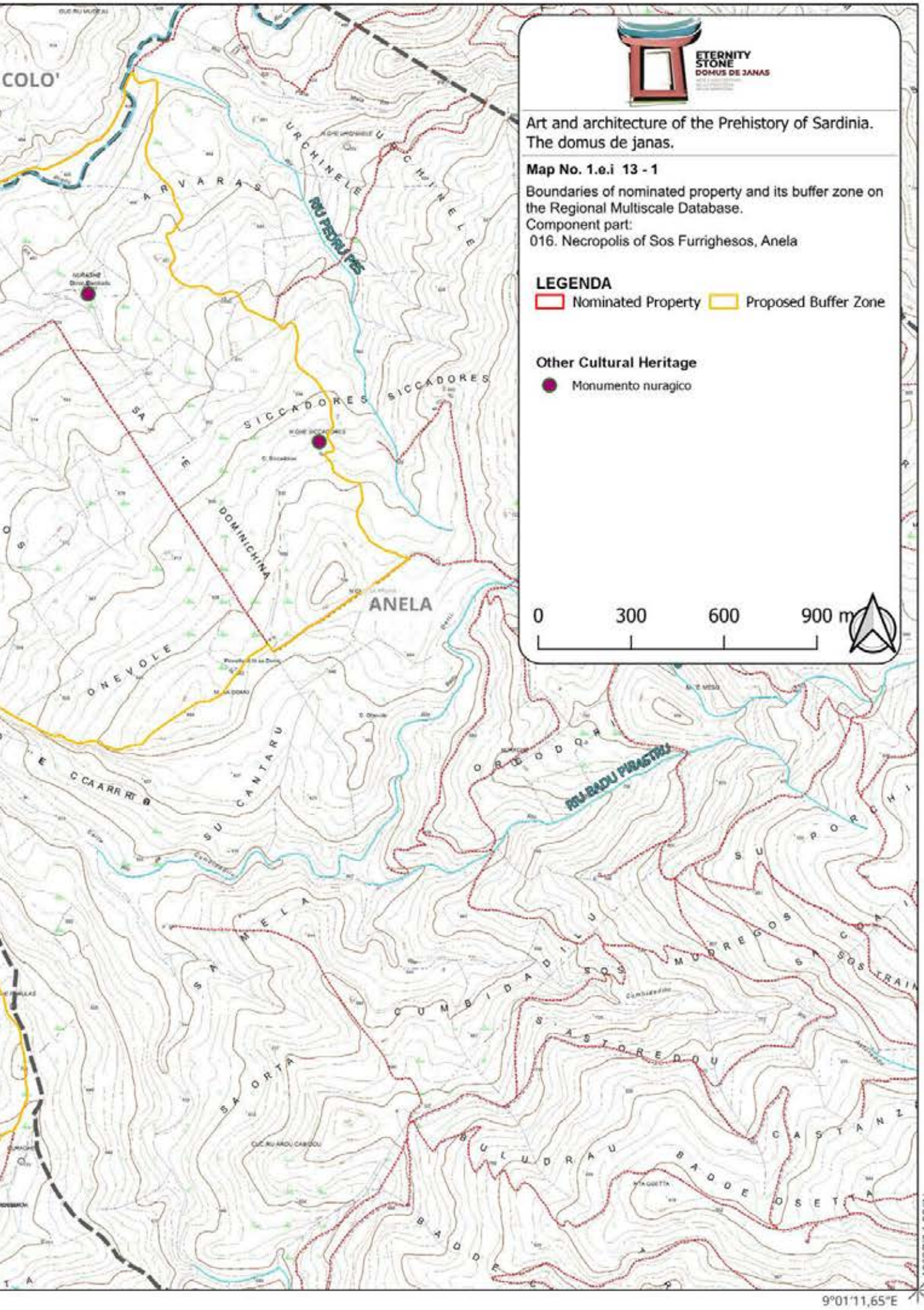

8°49'52,59"E
40°25'46,08"N
XV
XIV
XIII
I
II
XII
III
V
VI
XI
VIII
VII
IX
40°25'09,24"N
8°49'52,59"E
355

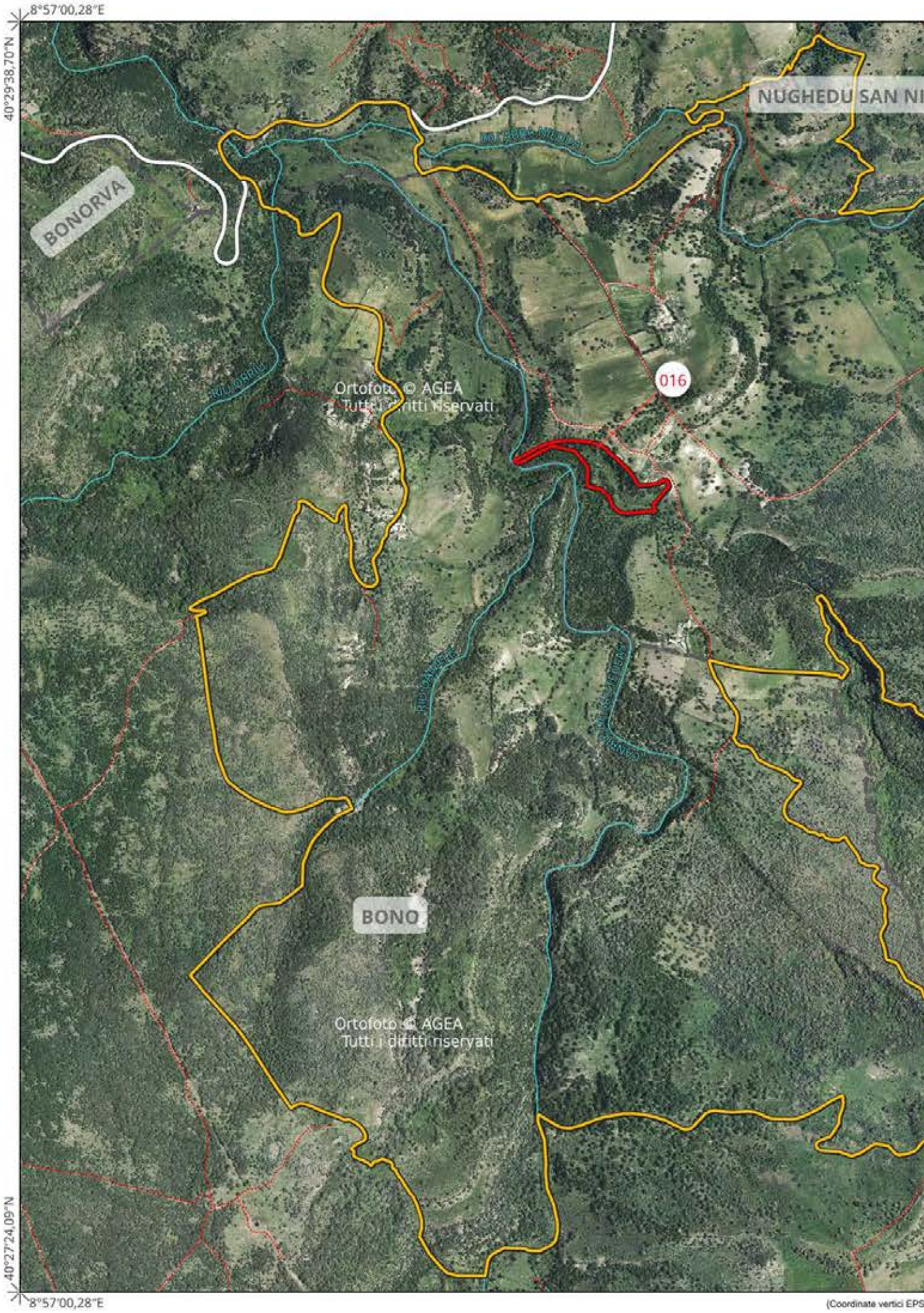

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 12 - a
Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
014. Necropolis of Sant'Andrea Priu, Bonorva
LEGENDA
Nominated Property
Proposed Buffer Zone
Detail of Archaeological Map
Monuments
0
80
160
240 m
MONTIJU SA PRESONE
352
354
364
390
Funtana su Canale Selighe
383
BONORVA
357
Gr.te S. And
403
Riu
359
Santa
X
50 m
40°25'09,24"N
8°51'01,23"E

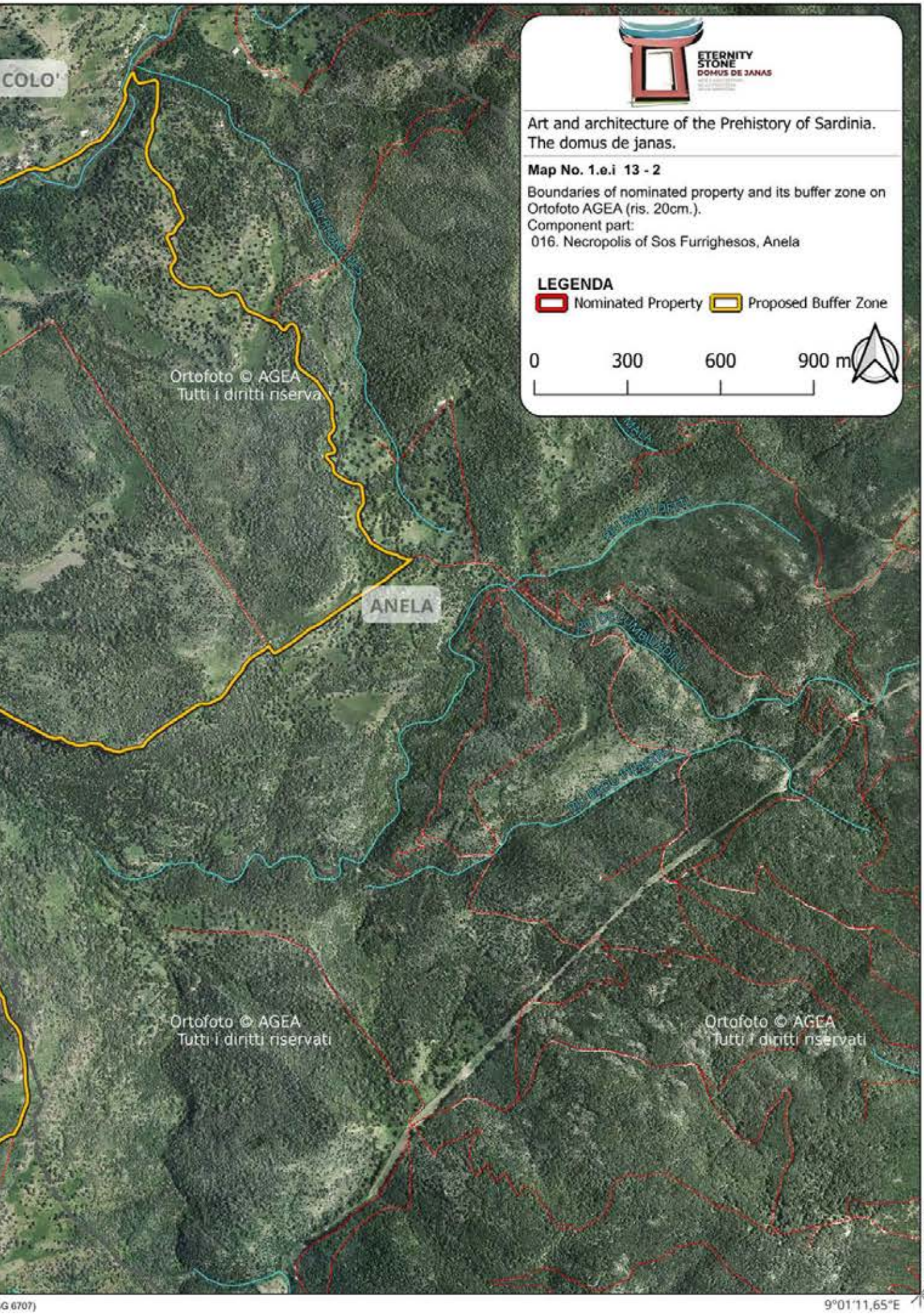

8°51'36,79"E
40°24'42,25"N
474
420
Riu
542
eppe
451
589
Archaeological Map
II
III
I
IV
V
40°24'05,51"N
8°51'36,79"E
524

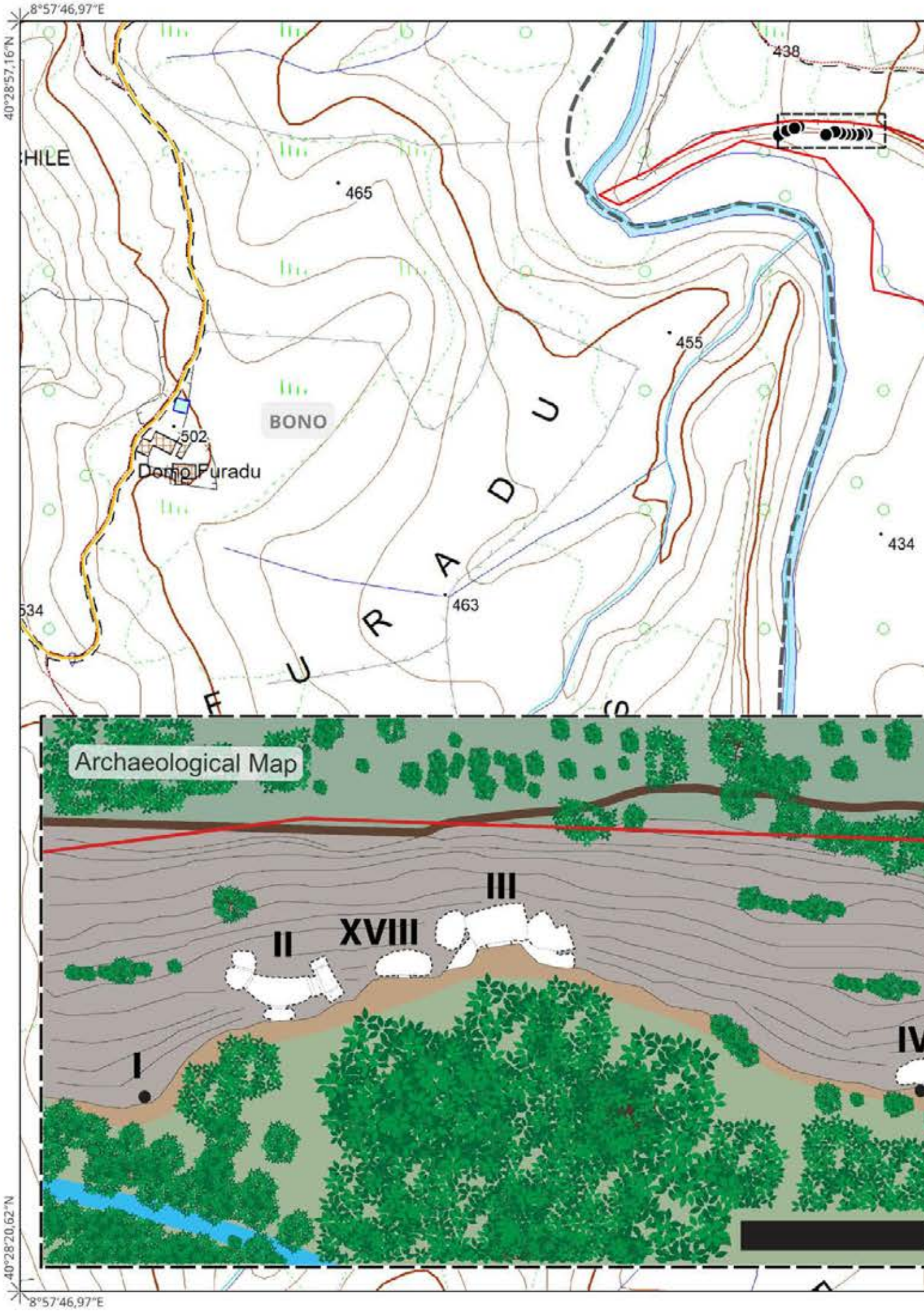

ETERNITY STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 12 - b
Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
015. Necropolis of Sa Pala Larga, Bonorva
LEGENDA
Nominated Property
Proposed Buffer Zone
Detail of Archaeological Map
Monuments
0
80
160
240 m
685
597
623
546
692
613
VII
VI
50 m
40°24'05,51"N
8°52'45,26"E

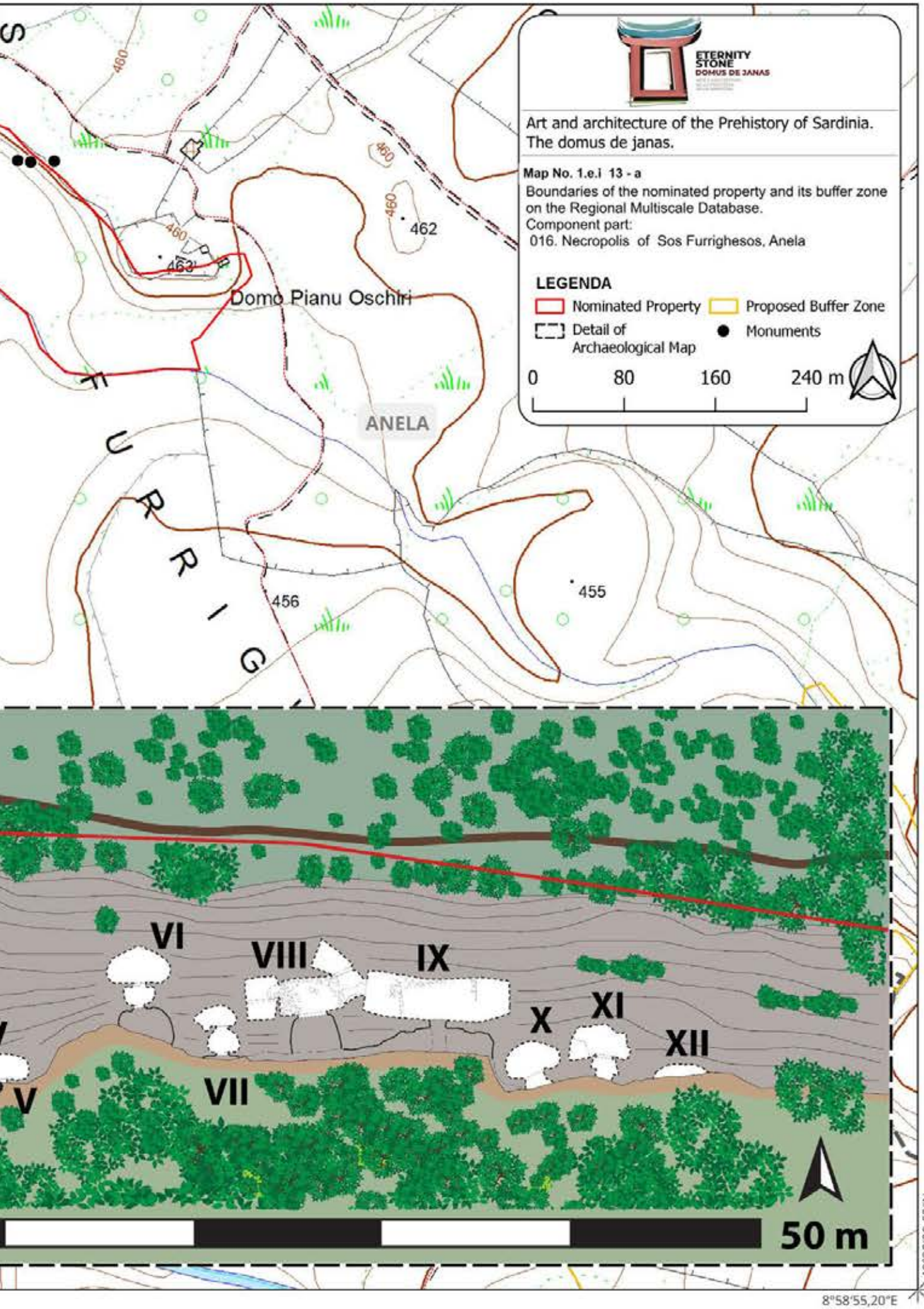

8°57'00,28"E
40°29'38,70"N
40°27'24,09"N
8°57'00,28"E
NUGHEDU SAN NI
BONORVA
RIU ABBA NIEDDA
RIU ORRIU
RIU DANIELE
016
ISCALA SU JUALE
BONO
(Coordinate vertici EPSG 6707)

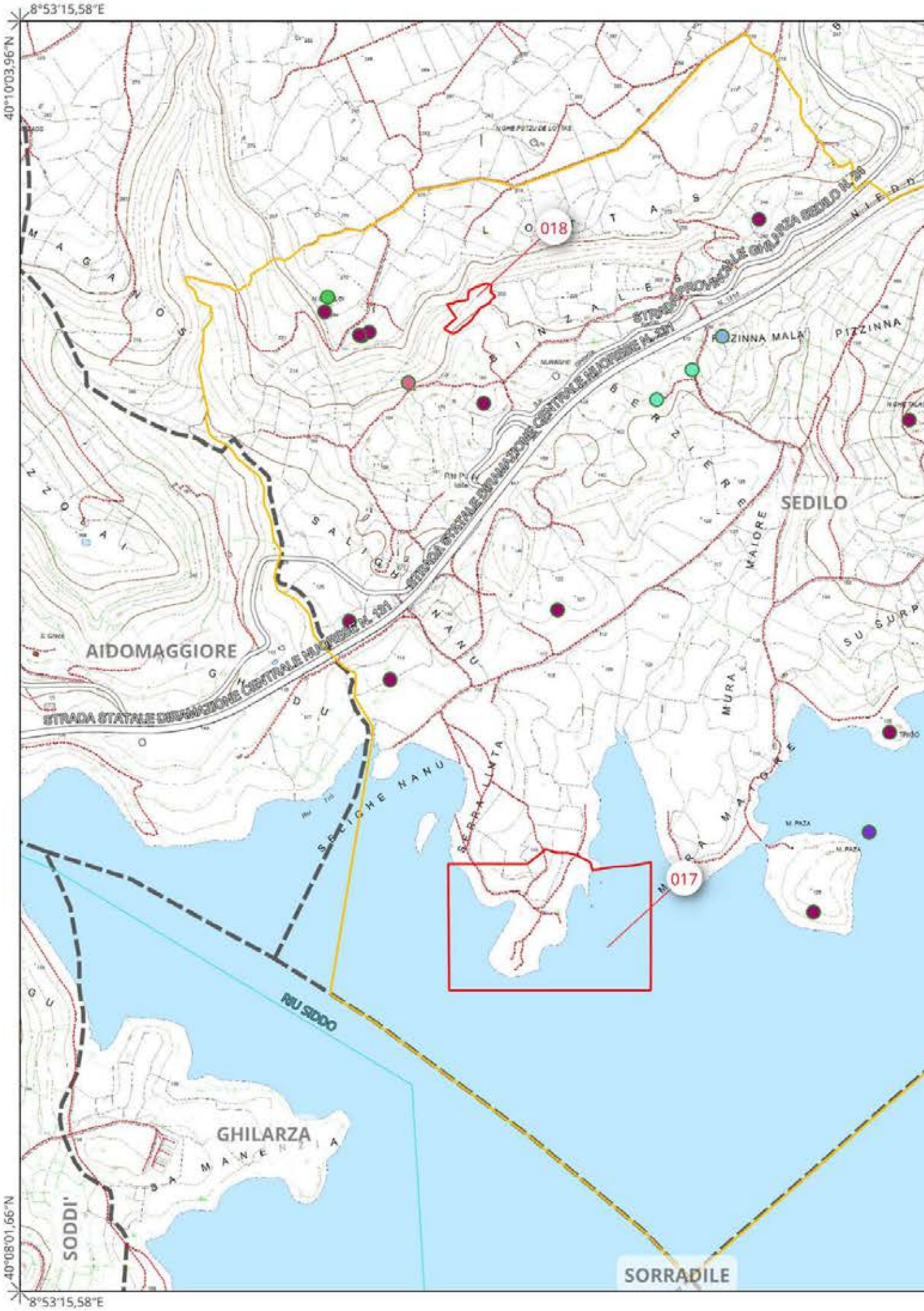

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 13 - 1
Boundaries of nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
016. Necropolis of Sos Furrighesos, Anela
LEGENDA
Nominated Property
Proposed Buffer Zone
Other Cultural Heritage
Monumento nuragico
0
300
600
900 m
COLO'
ANELA
RIU PEDRU PES
RIU BADU PIRASTRU
40°27'24,09"N
9°01'11,65"E

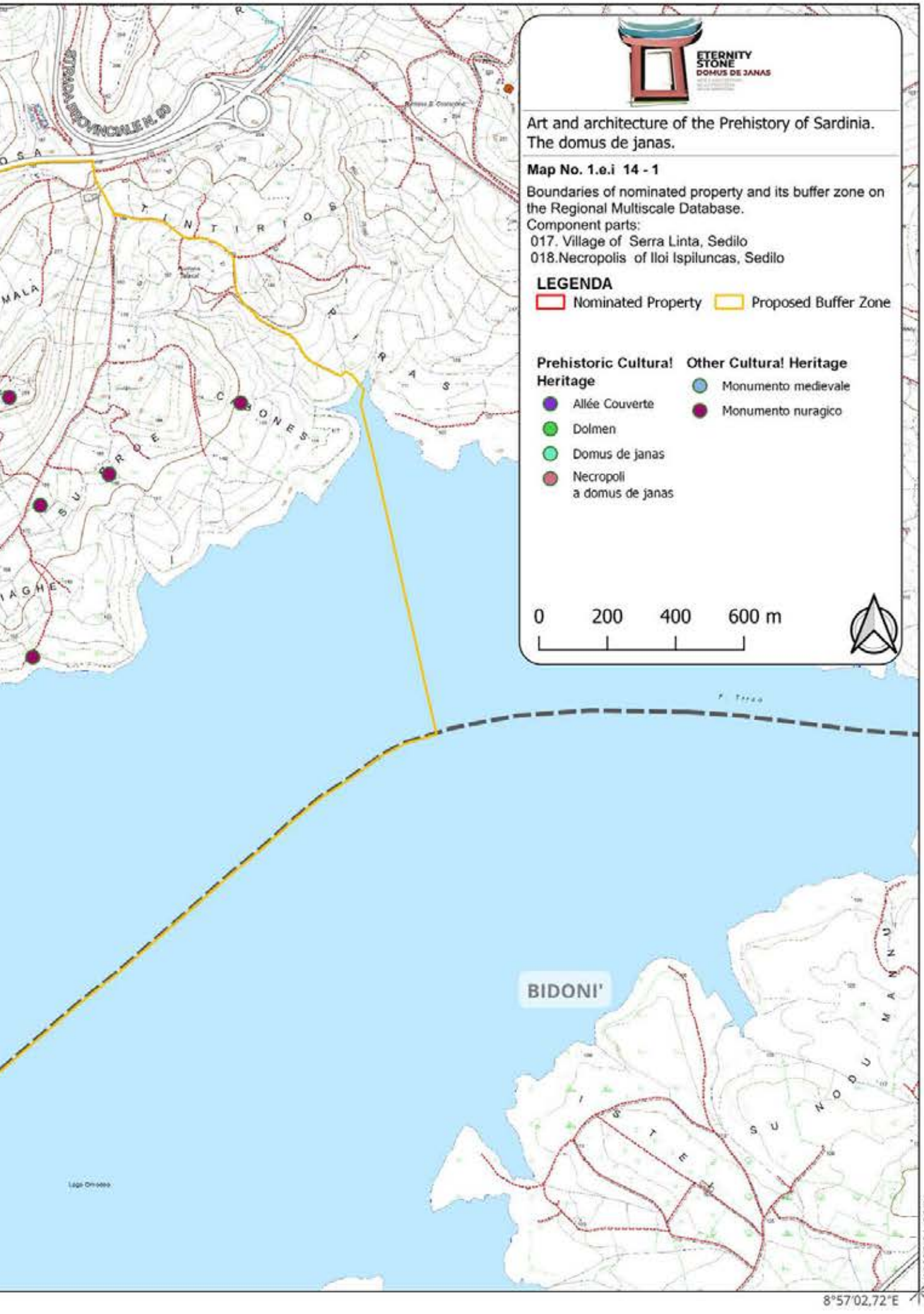

8°57'00,28"E
40°29'38,70"N
NUGHEDU SAN NI
BONORVA
016
Ortofoto © AGEA
Tutti i diritti riservati
BONO
Ortofoto © AGEA
Tutti i diritti riservati
40°27'24,09"N
8°57'00,28"E
(Coordinate vertici EPS

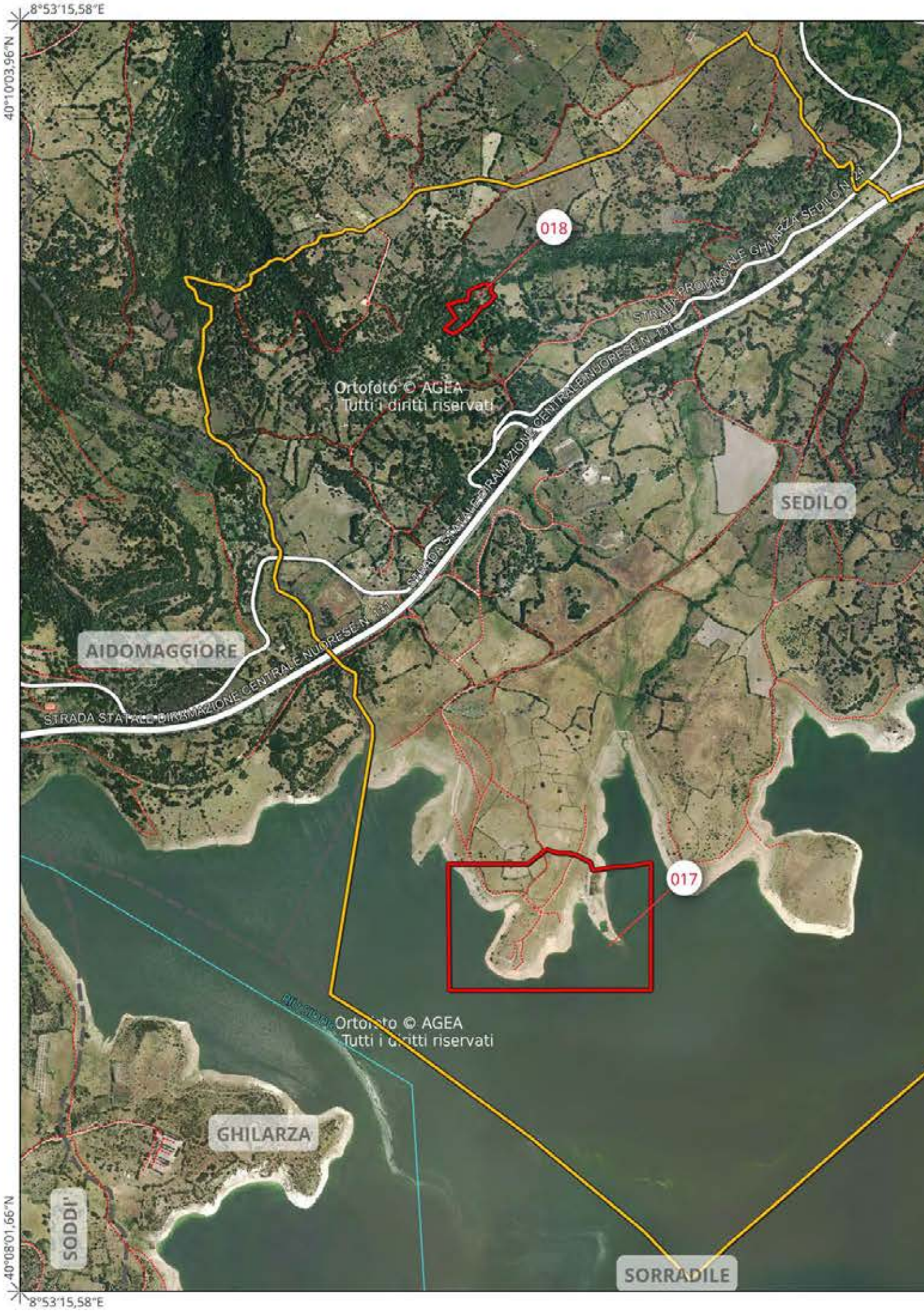

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 13 - 2
Boundaries of nominated property and its buffer zone on Ortofoto AGEA (ris. 20cm.).
Component part:
016. Necropolis of Sos Furrighesos, Anela
LEGENDA
Nominated Property
Proposed Buffer Zone
0
300
600
900 m
COLO'
ANELA
Ortofoto © AGEA
Tutti i diritti riserva
Ortofoto © AGEA
Tutti i diritti riservati
Ortofoto © AGEA
Tutti i diritti riservati
40°27'24,09"N
9°01'11,65"E

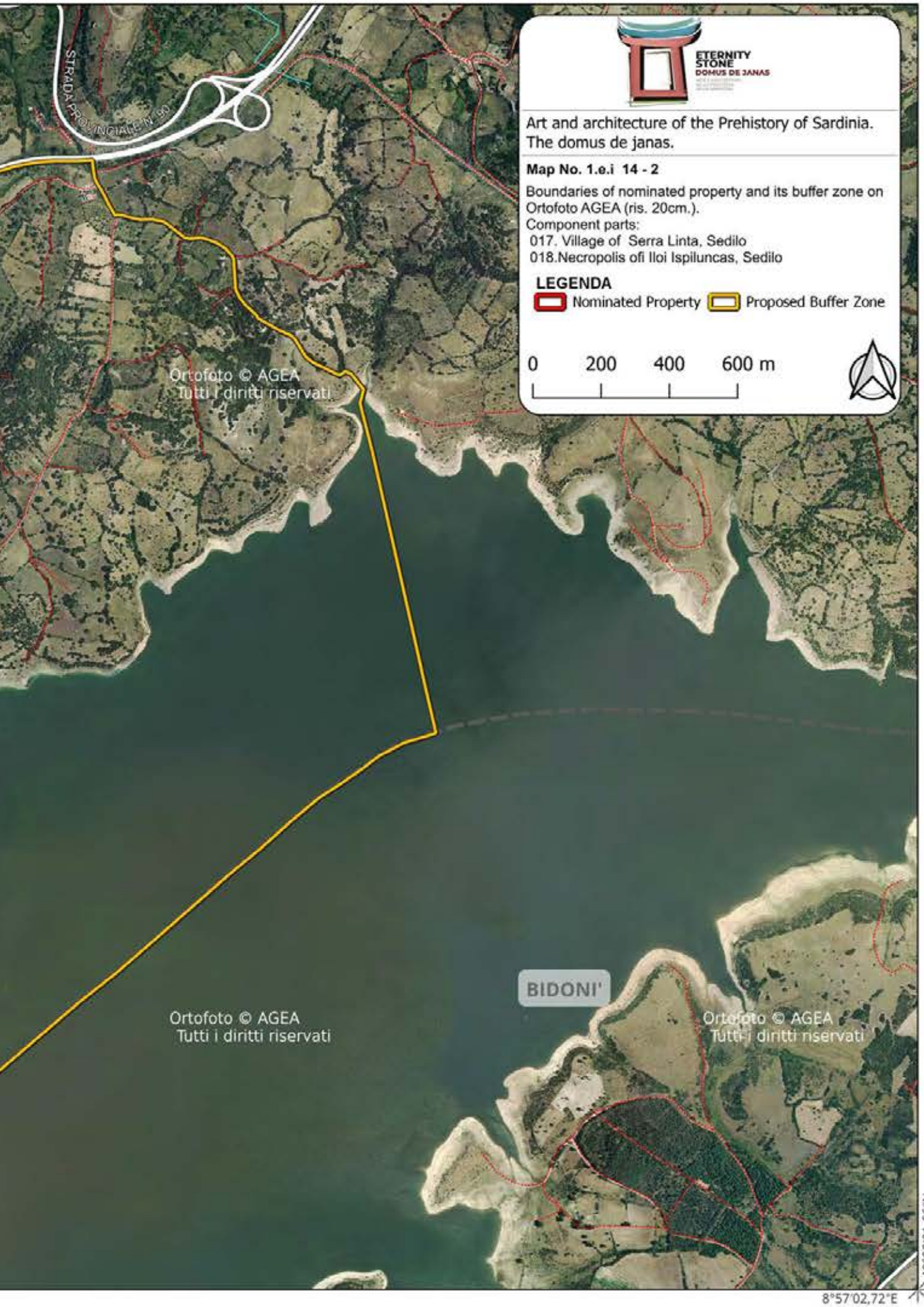

8°57'46,97"E
40°28'57,16"N
40°28'20,62"N
8°57'46,97"E
438
465
455
434
463
534
BONO
502
Domo Furadu
Archaeological Map
III
II
XVIII
I
IV

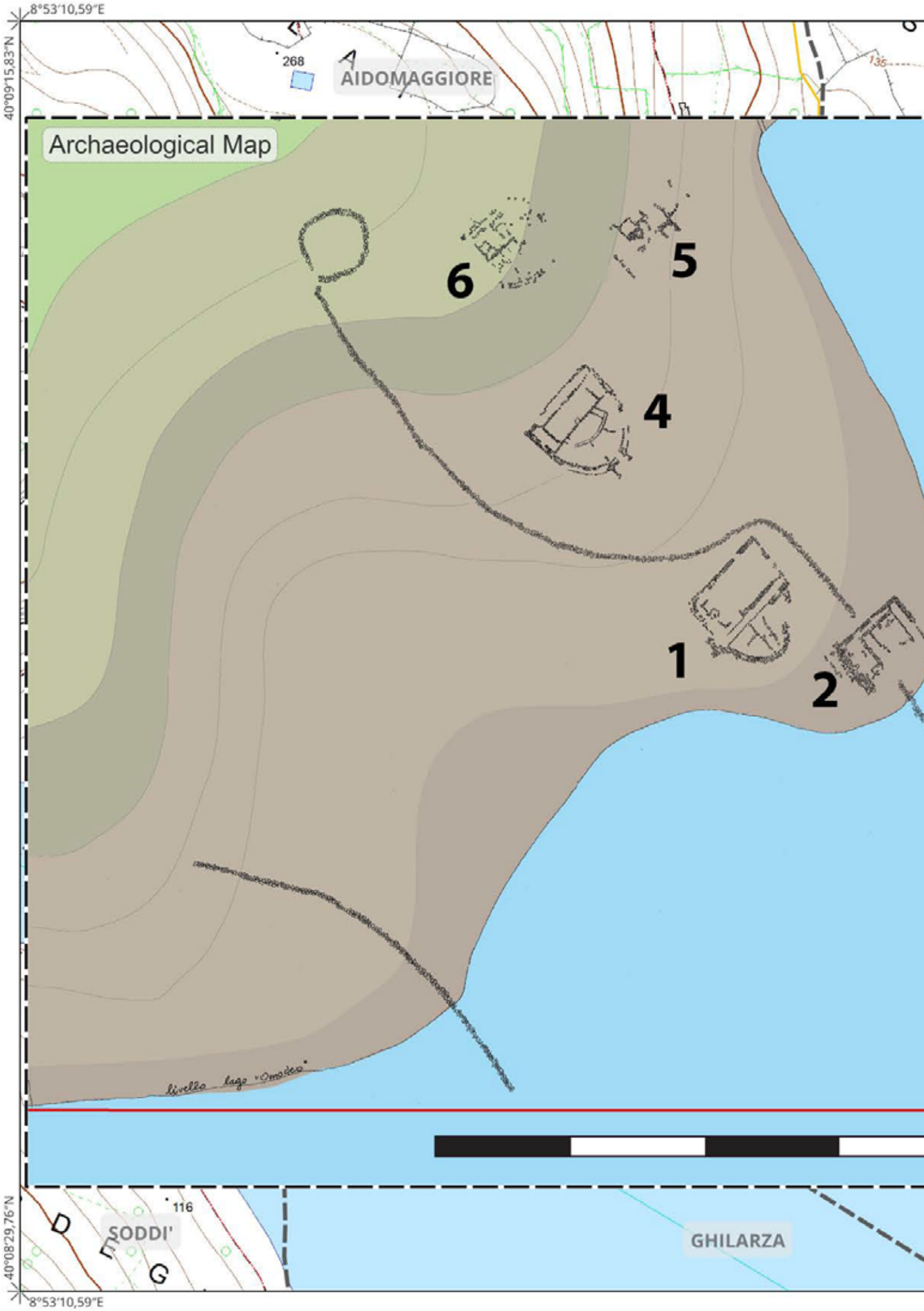

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 13 - a
Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
016. Necropolis of Sos Furrighesos, Anela
LEGENDA
Nominated Property
Proposed Buffer Zone
Detail of Archaeological Map
Monuments
0
80
160
240 m
Domo Pianu Oschiri
ANELA
460
462
463
456
455
VI
VIII
IX
X
XI
XII
V
VII
50 m
40°28'20,62"N
8°58'55,20"E

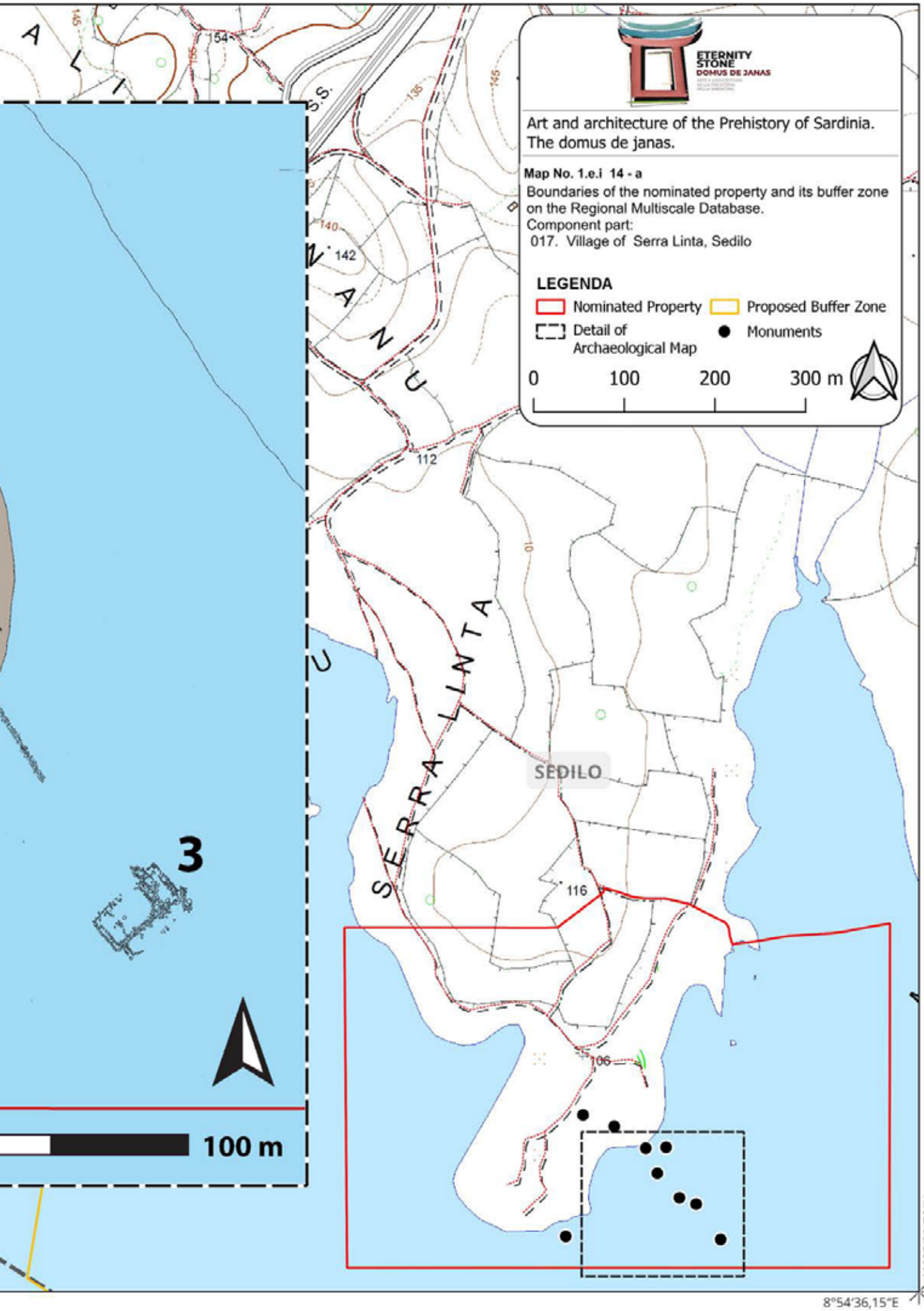

8°53'15,58"E
40°10'03,96"N
40°08'01,66"N
018
017
SEDILO
AIDOMAGGIORE
GHILARZA
SORRADILE
SODDI'
PIZZINNA
RIU SIDDO

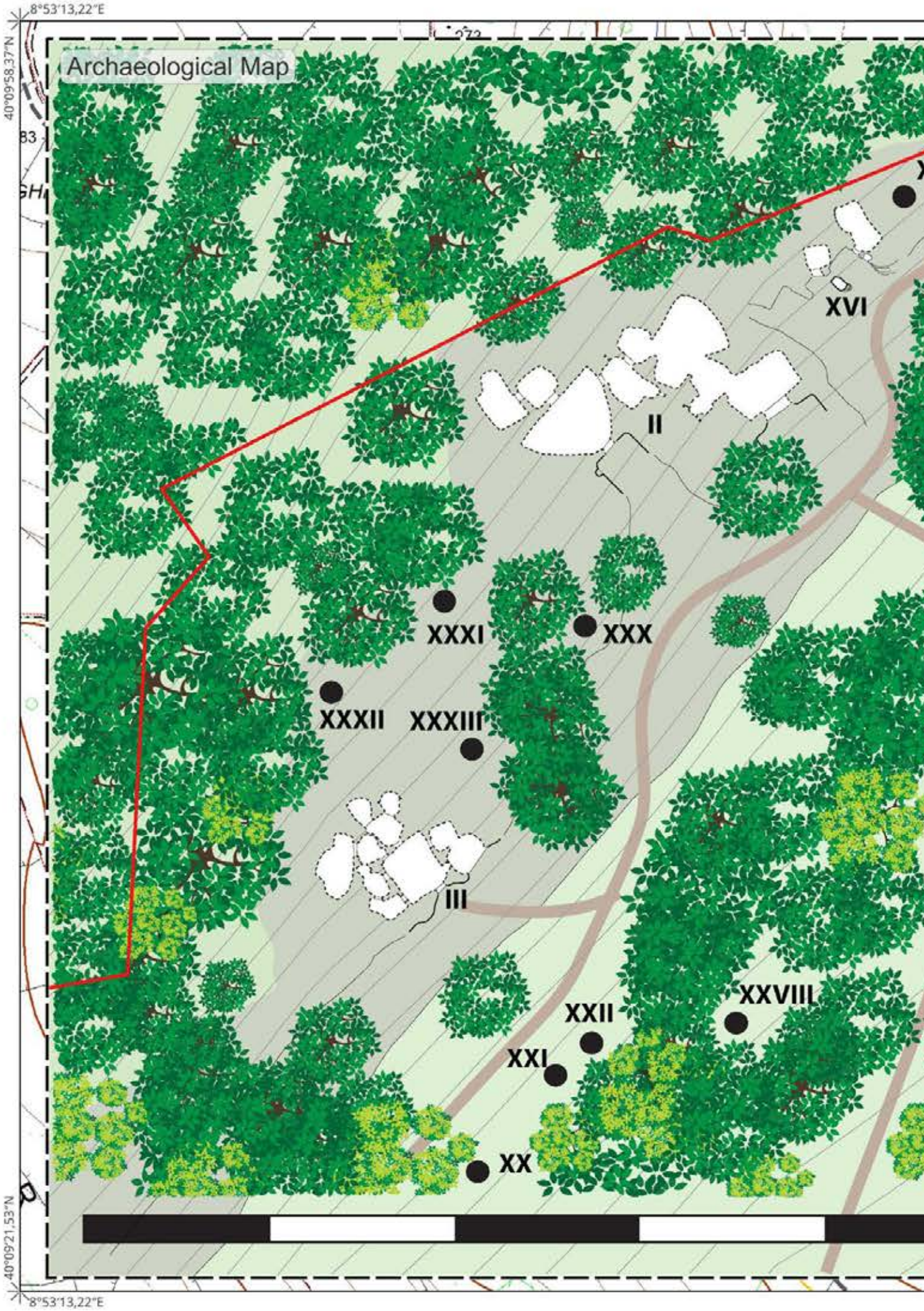

ETERNITY STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 14 - 1
Boundaries of nominated property and its buffer zone on the Regional Multiscale Database.
Component parts:
017. Village of Serra Linta, Sedilo
018.Necropolis of Iloi Ispiluncas, Sedilo
LEGENDA
Nominated Property
Proposed Buffer Zone
Prehistoric Cultural Heritage
Allée Couverte
Dolmen
Domus de janas
Necropoli a domus de janas
Other Cultural Heritage
Monumento medievale
Monumento nuragico
0 200 400 600 m
BIDONI'
40°08'01,66"N
8°57'02,72"E

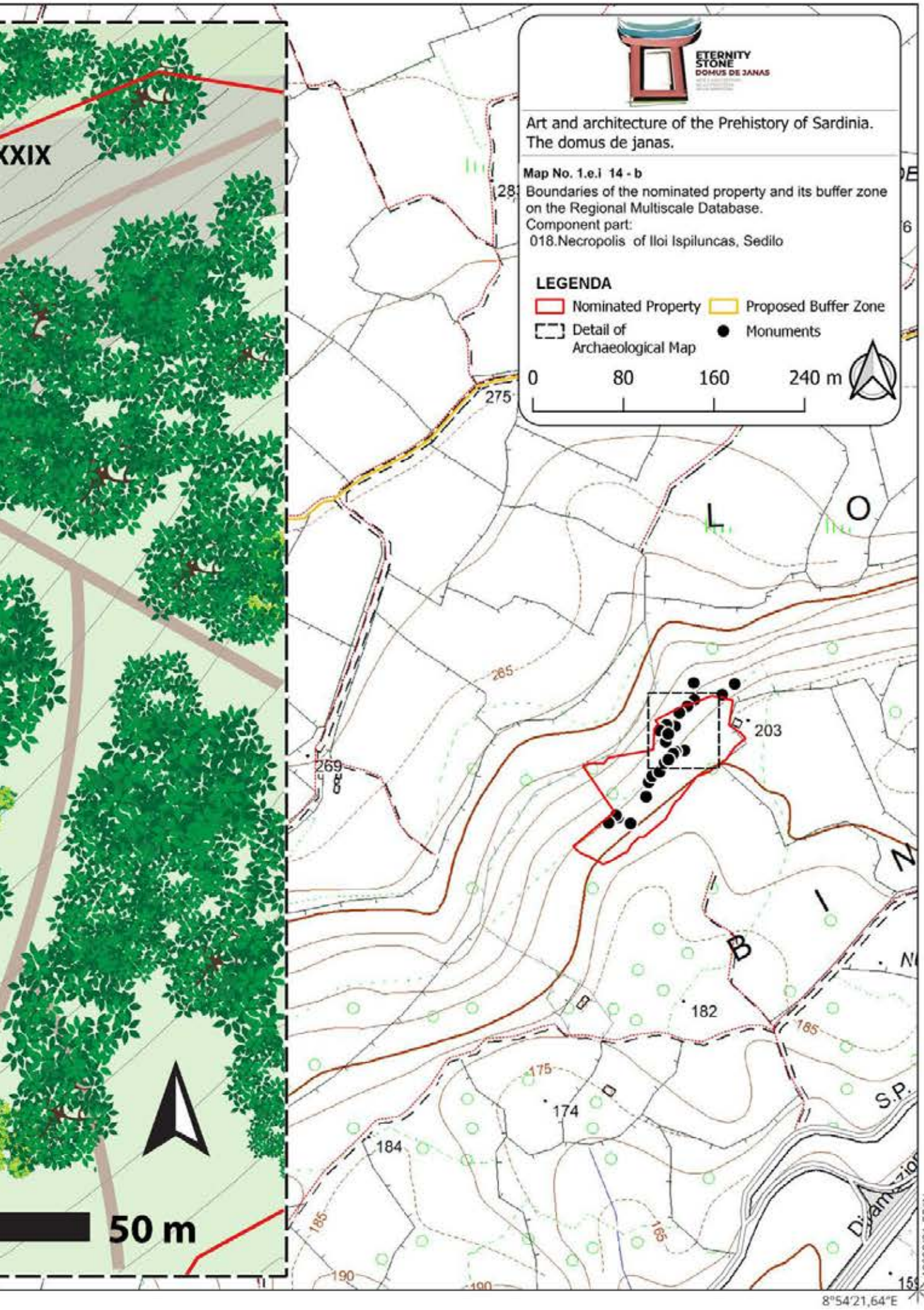

8°53'15,58"E
40°10'03,96"N
018
STRADA PROVINCIALE GHILARZA SEDILO N. 24
Ortofoto © AGEA
Tutti i diritti riservati
SEDILO
AIDOMAGGIORE
017
GHILARZA
SODDI'
SORRADILE
40°08'01,66"N
8°53'15,58"E

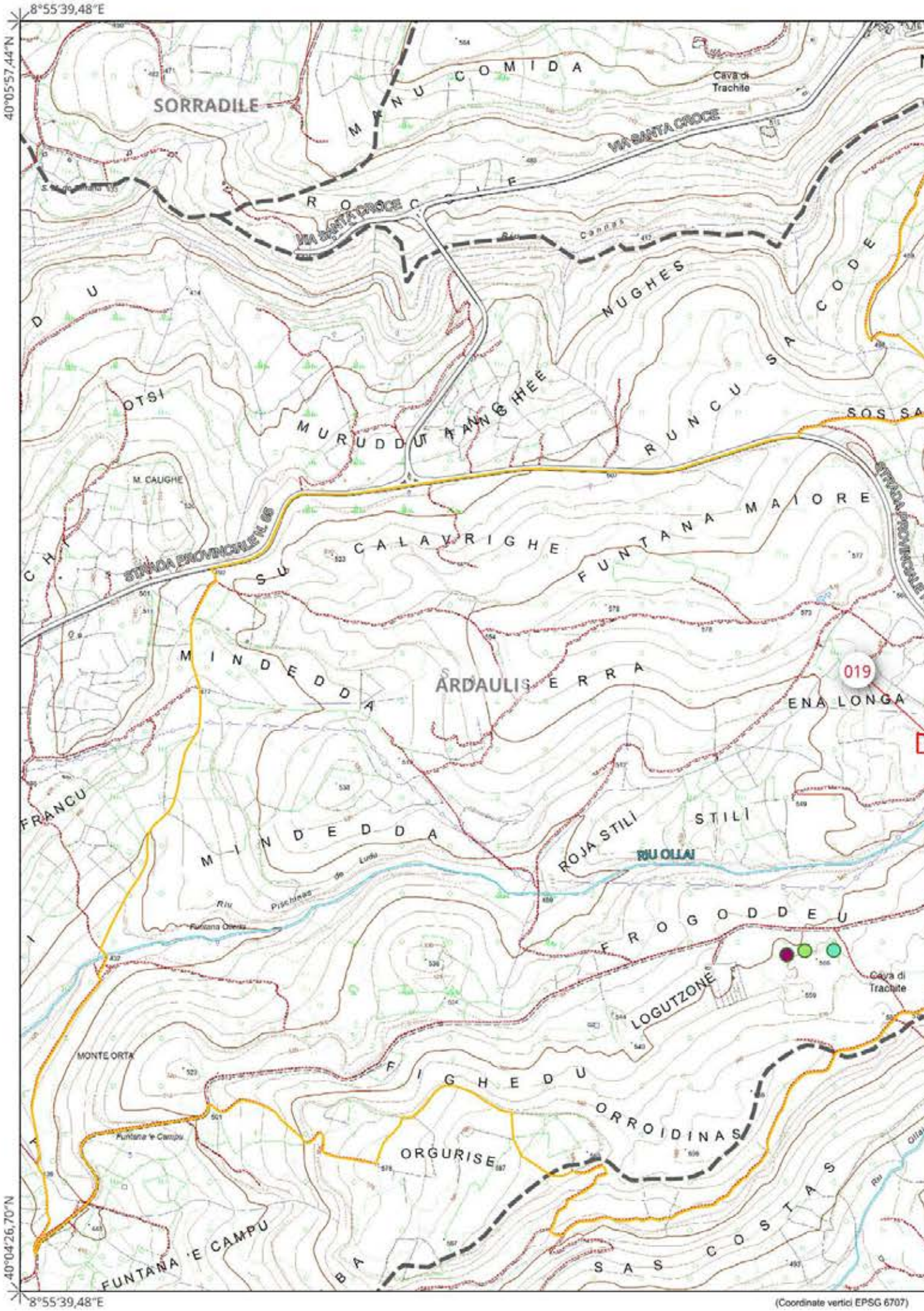

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 14 - 2
Boundaries of nominated property and its buffer zone on Ortofoto AGEA (ris. 20cm.).
Component parts:
017. Village of Serra Linta, Sedilo
018.Necropolis ofi Iloi Ispiluncas, Sedilo
LEGENDA
Nominated Property
Proposed Buffer Zone
0 200 400 600 m
STRADA PROVINCIALE N. 50
Ortofoto © AGEA
Tutti i diritti riservati
BIDONI'
40°08'01,66"N
8°57'02,72"E

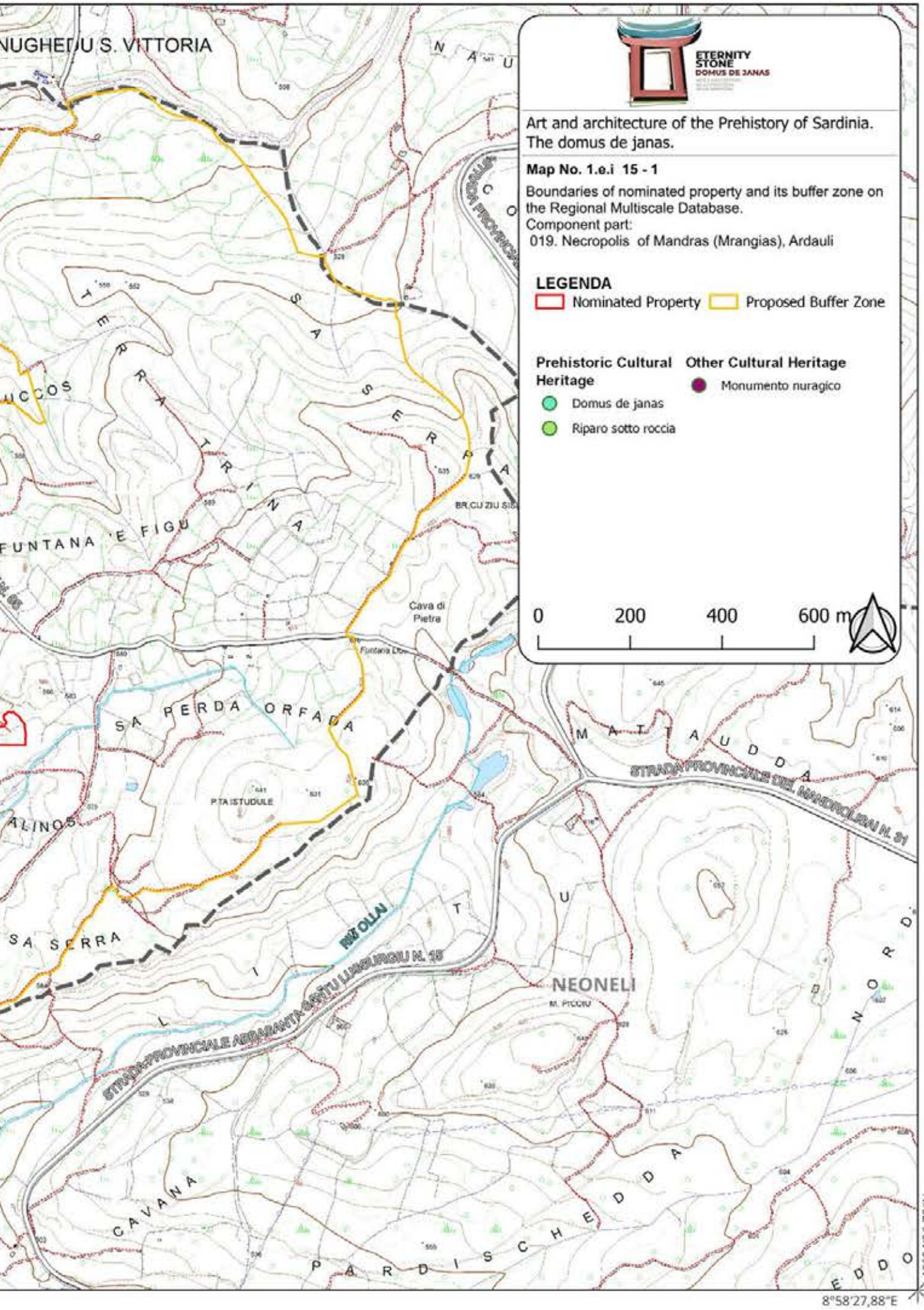

8°53'10,59"E
40°09'15,83"N
268
AIDOMAGGIORE
135
Archaeological Map
6
5
4
1
2
livello lago Omodeo
116
SODDI'
GHILARZA
40°08'29,76"N
8°53'10,59"E

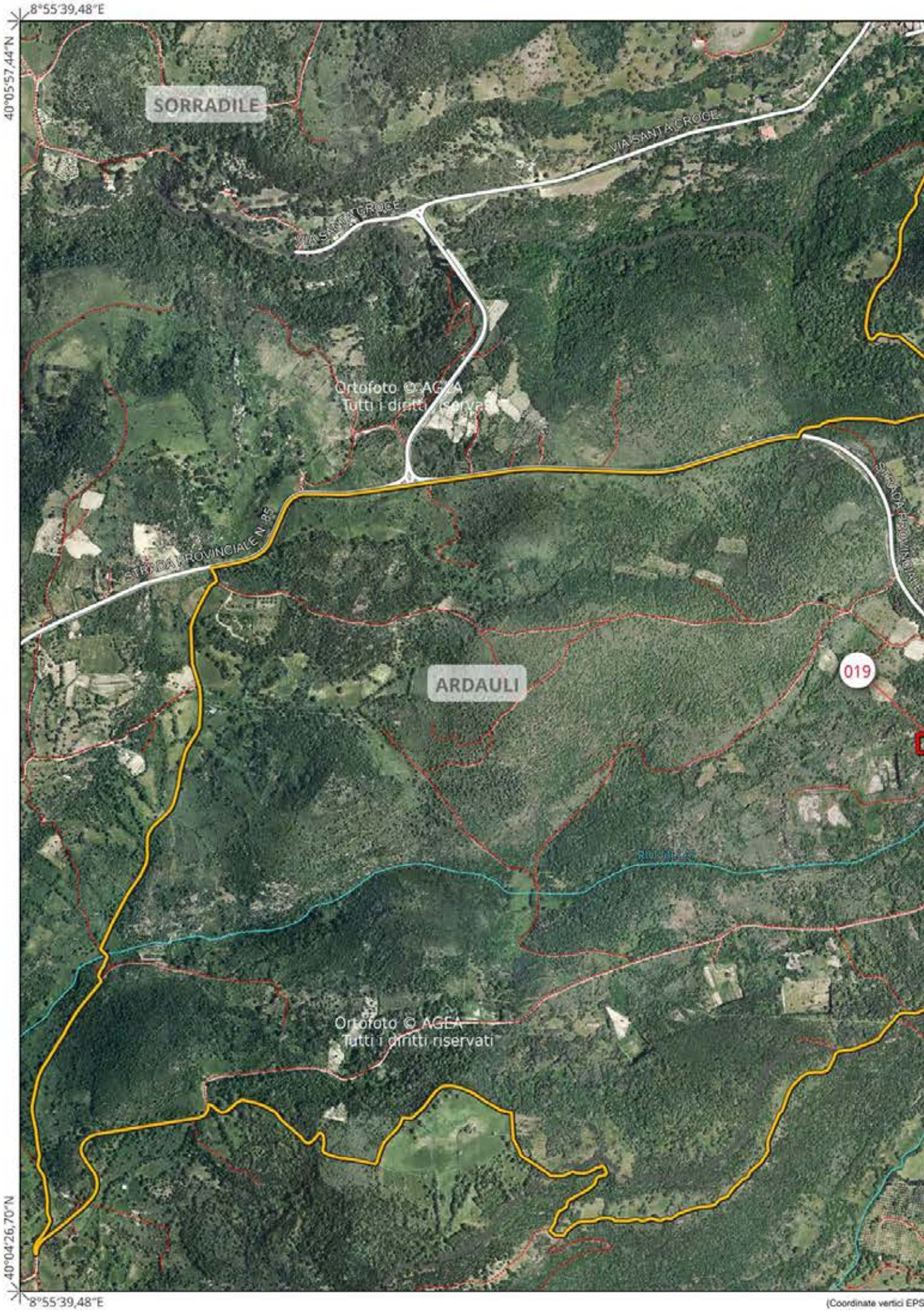

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 14 - a
Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
017. Village of Serra Linta, Sedilo
LEGENDA
Nominated Property
Proposed Buffer Zone
Detail of Archaeological Map
Monuments
0
100
200
300 m
SEDILO
SERRA LINTA
3
100 m
8°54'36,15"E
40°08'29,76"N

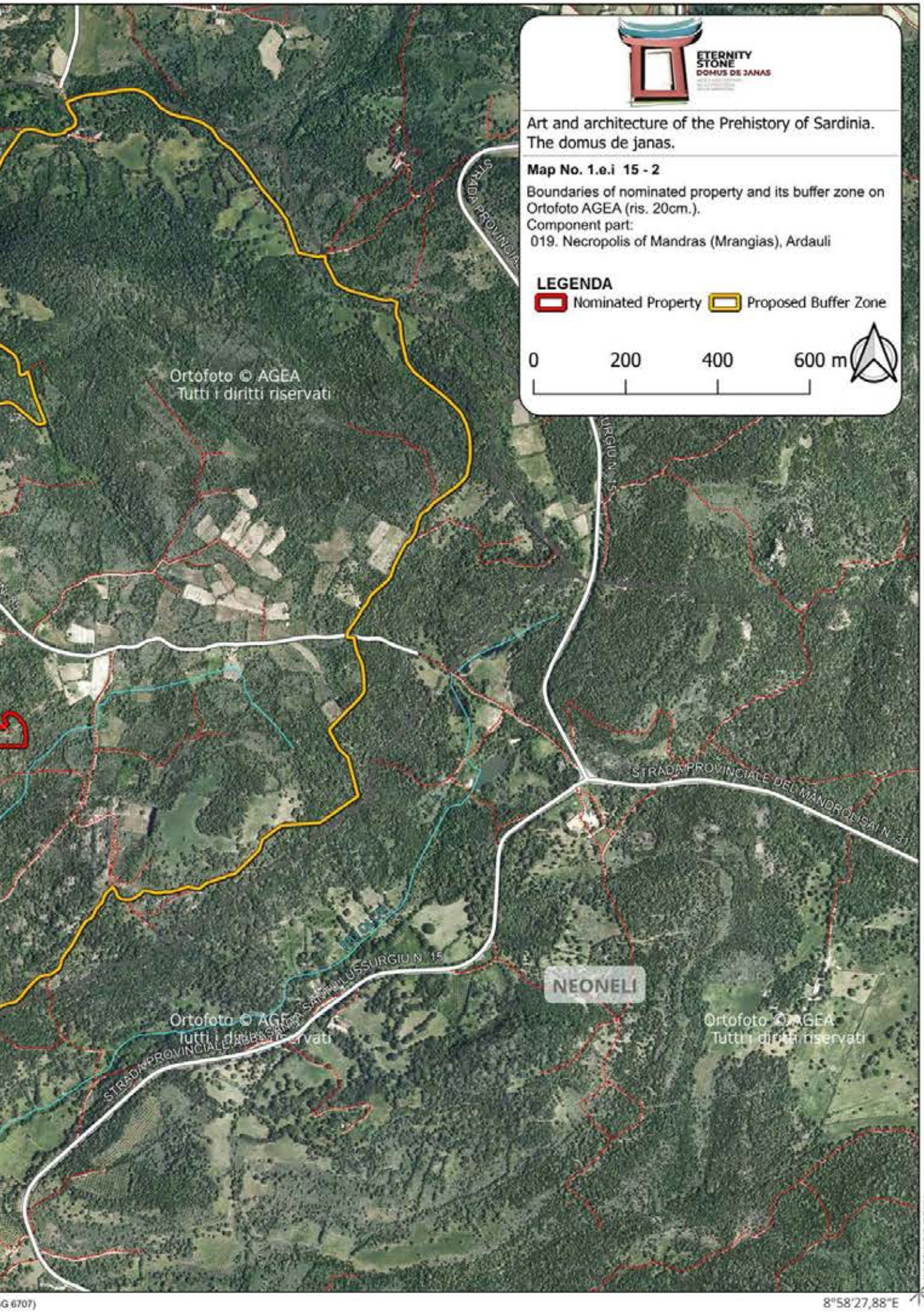

8°53'13,22"E
40°09'58,37"N
Archaeological Map
XVI
II
XXXI
XXX
XXXII
XXXIII
III
XXVIII
XXII
XXI
XX
40°09'21,53"N
8°53'13,22"E

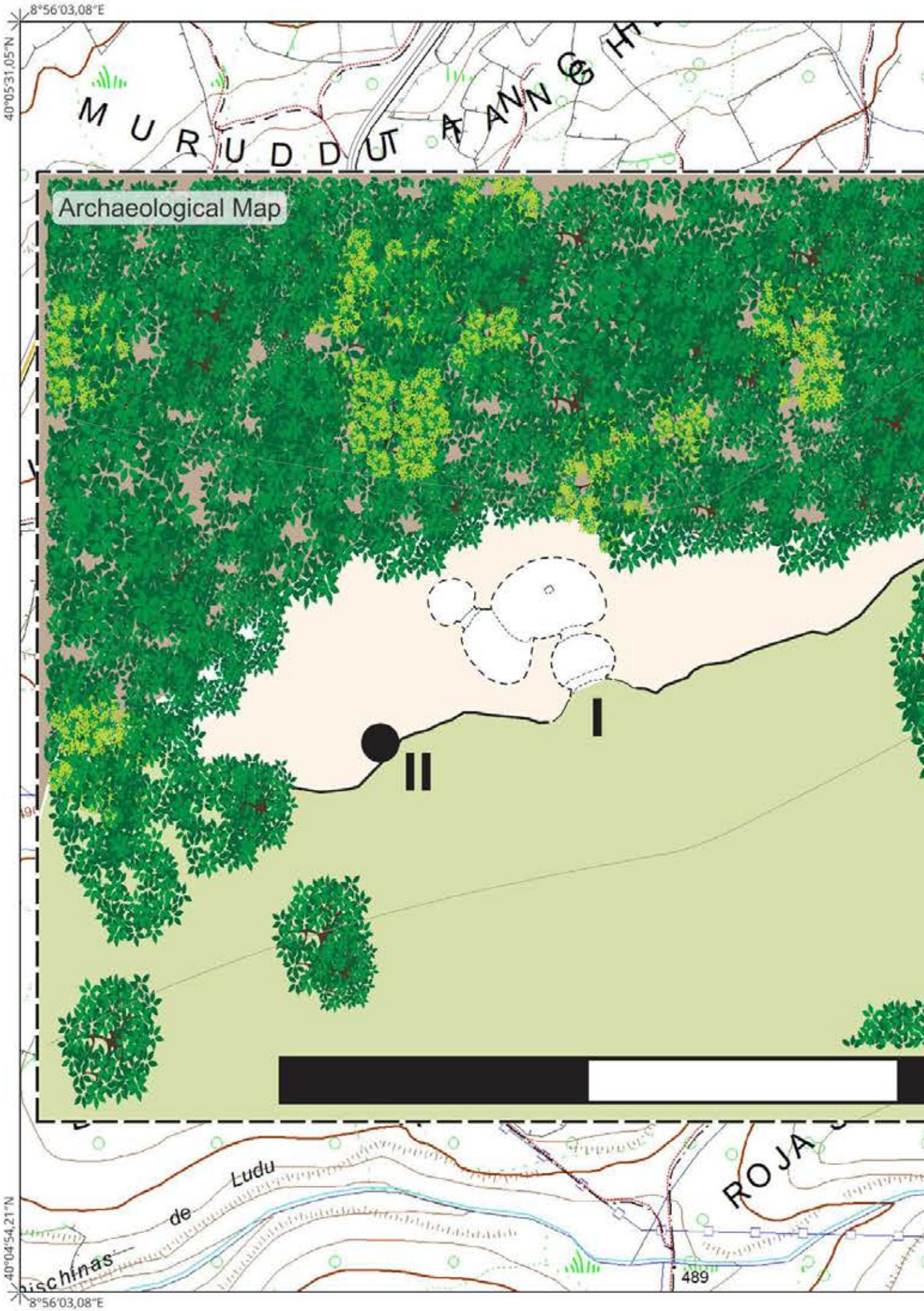

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 14 - b
Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
018.Necropolis of Iloi Ispiluncas, Sedilo
LEGENDA
Nominated Property
Proposed Buffer Zone
Detail of Archaeological Map
Monuments
0
80
160
240 m
XXIX
50 m
275
265
269
203
182
174
184
185
175
190
S.P.
40°09'21,53"N
8°54'21,64"E

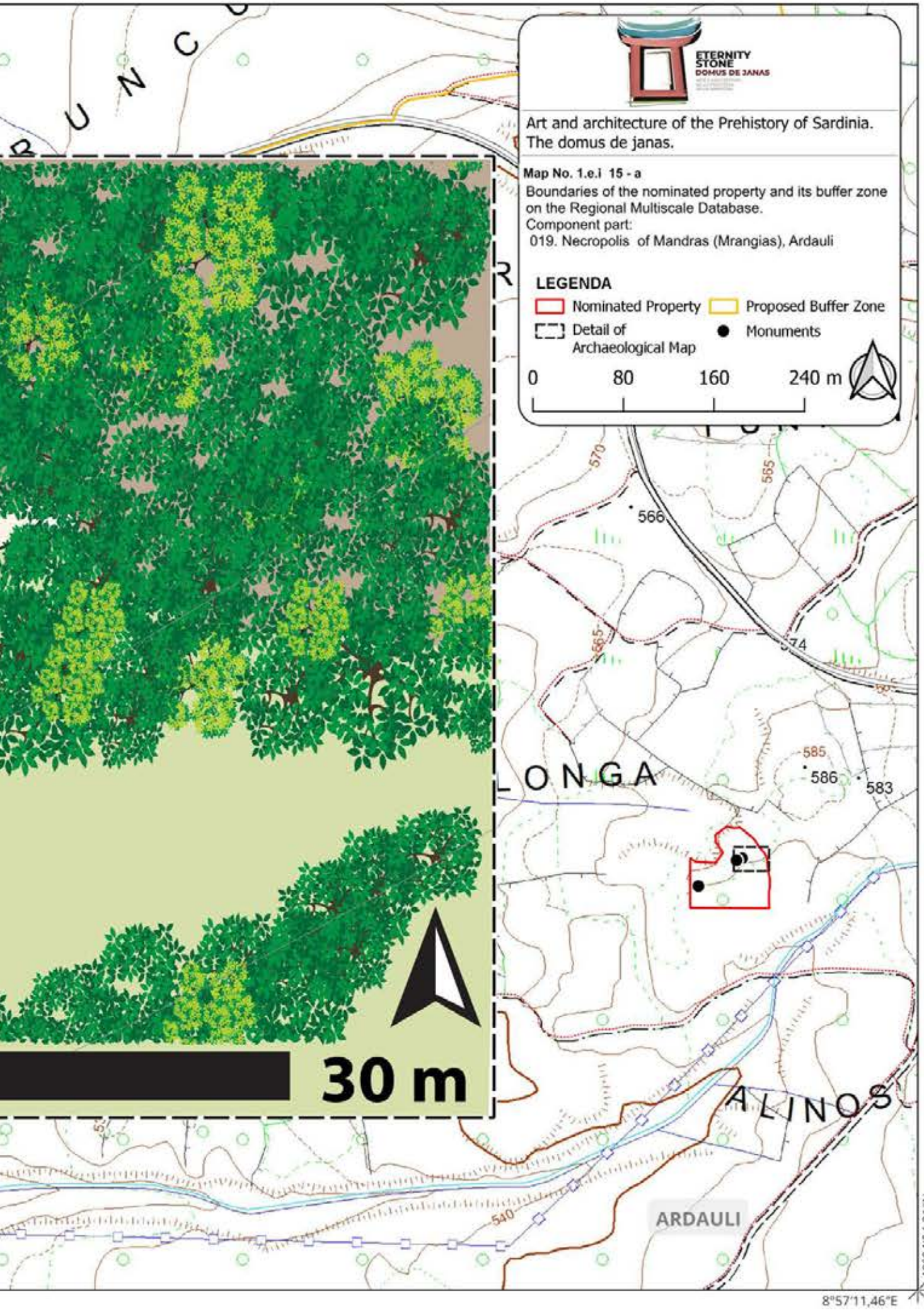

8°55'39,48"E
40°05'57,44"N
40°04'26,70"N
SORRADILE
MANNU COMIDA
Cava di Trachite
VIA SANTA CROCE
NUGHES
SA CODE
RUNCU
SOS SA
M. CAUGHE
STRADA PROVINCIALE N. 46
CALAVRIGHE
FUNTANA MAIORE
MINDEDDA
ARDAULIS
ENA LONGA
019
FRANCU
ROJA STILI
STILI
RIU OLLAI
FROGODDEU
LOGUTZONE
MONTE ORTA
FIGHEDU
ORRIOIDINAS
ORGURISE
FUNTANA 'E CAMPU
SAS COSTAS
(Coordinate vertici EPSG 6707)

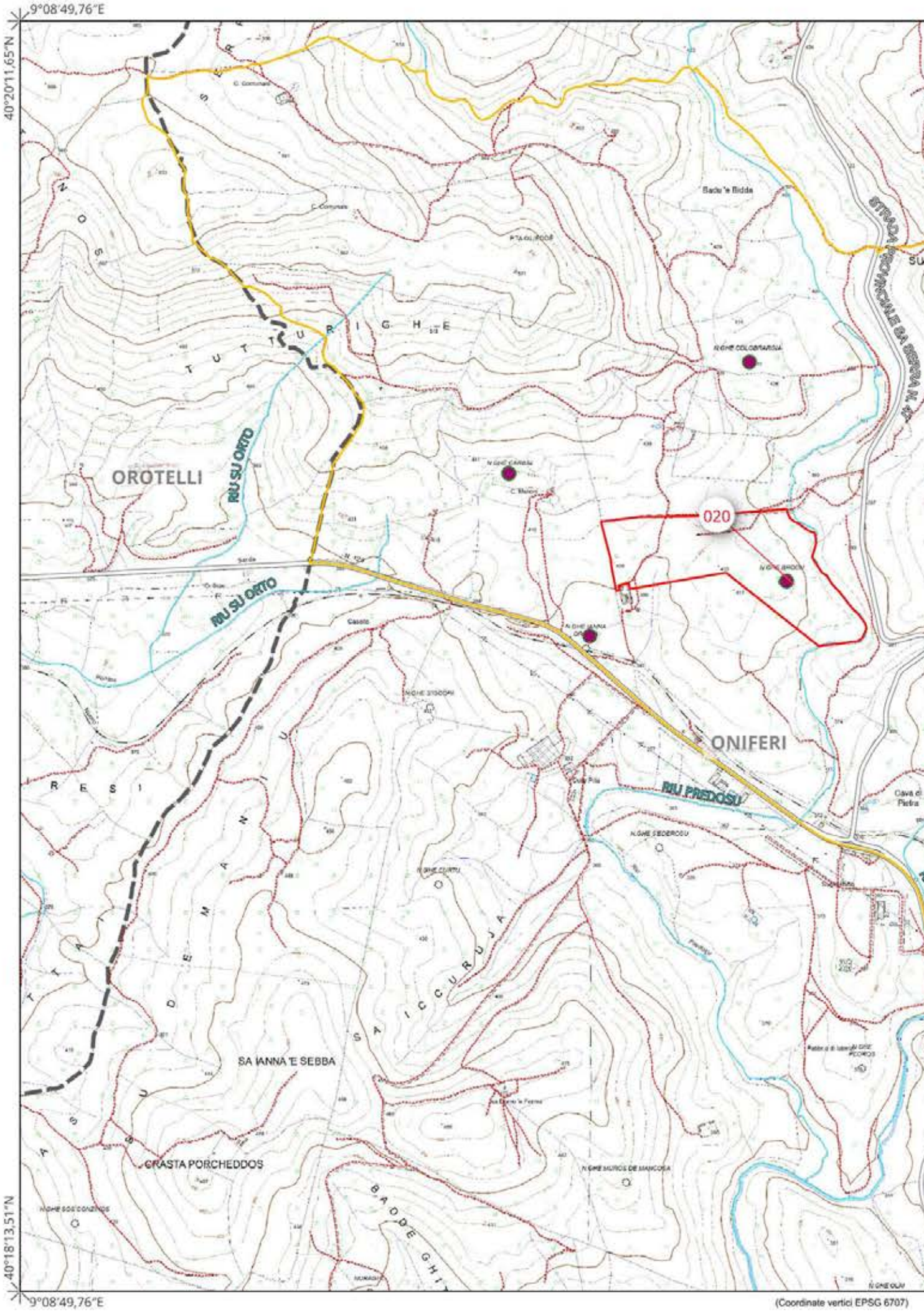

ETERNITY STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia. The domus de janas.
Map No. 1.e.i 15 - 1
Boundaries of nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
019. Necropolis of Mandras (Mrangias), Ardauli
LEGENDA
Nominated Property
Proposed Buffer Zone
Prehistoric Cultural Heritage
Domus de janas
Riparo sotto roccia
Other Cultural Heritage
Monumento nuragico
0
200
400
600 m
NUGHEDDU S. VITTORIA
Cava di Pietra
SA PERDA ORFADA
NEONELI
STRADA PROVINCIALE ABBARANTZA-SANTU LUSSURGIU N. 15
STRADA PROVINCIALE DEL MARGHINARU N. 31
40°04'26,70"N
8°58'27,88"E

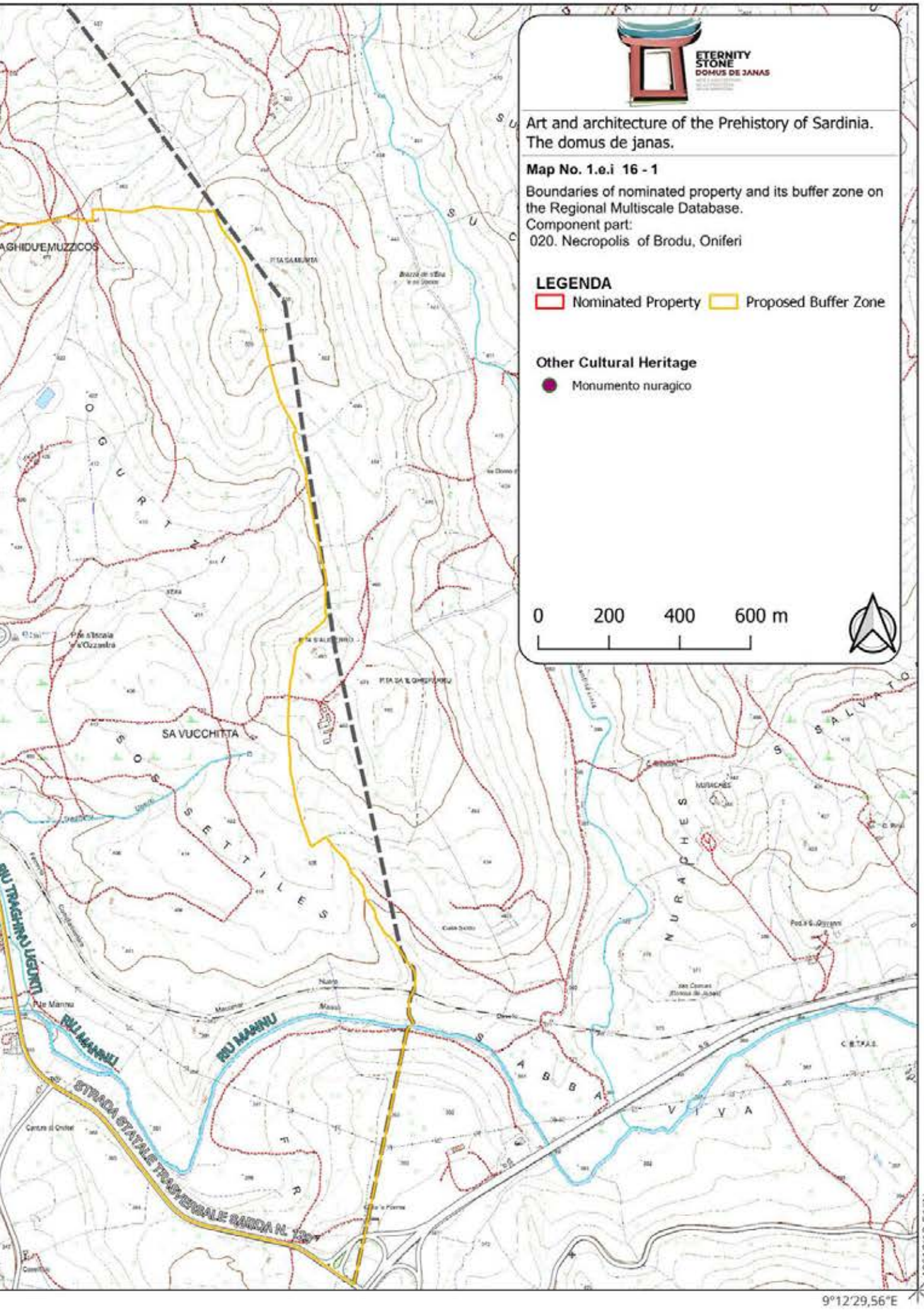

8°55'39,48"E
40°05'57,44"N
SORRADILE
VIA SANTA CROCE
VIA SANTA CROCE
Ortofoto © AGEA
Tutti i diritti riservati
STRADA PROVINCIALE N. 35
STRADA PROVINCIALE
ARDAULI
019
Ortofoto © AGEA
Tutti i diritti riservati
40°04'26,70"N
8°55'39,48"E
(Coordinate vertici EPS

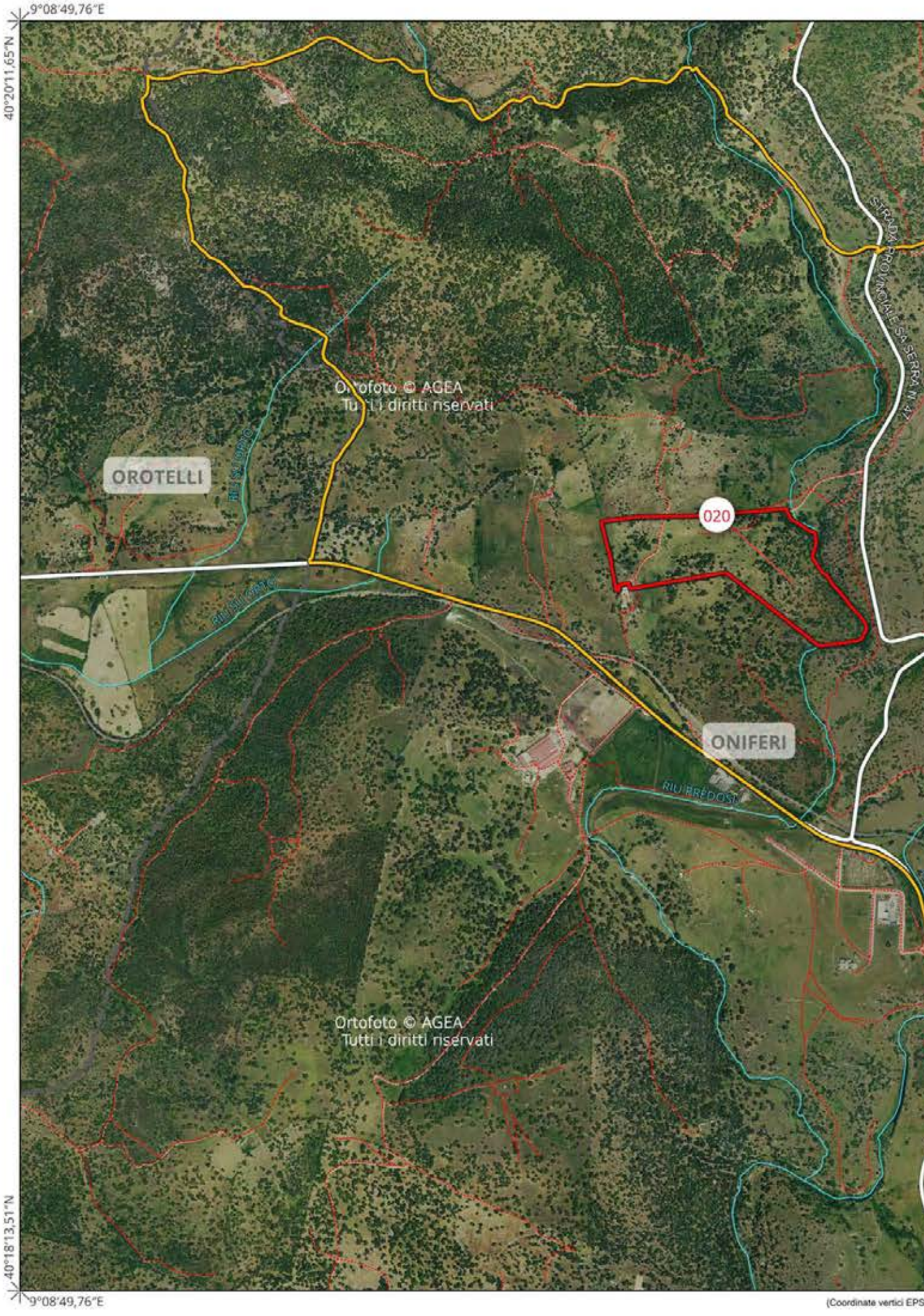

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 15 - 2
Boundaries of nominated property and its buffer zone on Ortofoto AGEA (ris. 20cm.).
Component part:
019. Necropolis of Mandras (Mrangias), Ardauli
LEGENDA
Nominated Property
Proposed Buffer Zone
0
200
400
600 m
Ortofoto © AGEA
Tutti i diritti riservati
STRADA PROVINCIALE DEL MANDROLISAI N. 31
NEONELI
Ortofoto © AGEA
Tutti i diritti riservati
Ortofoto © AGEA
Tutti i diritti riservati
40°04'26,70"N
8°58'27,88"E

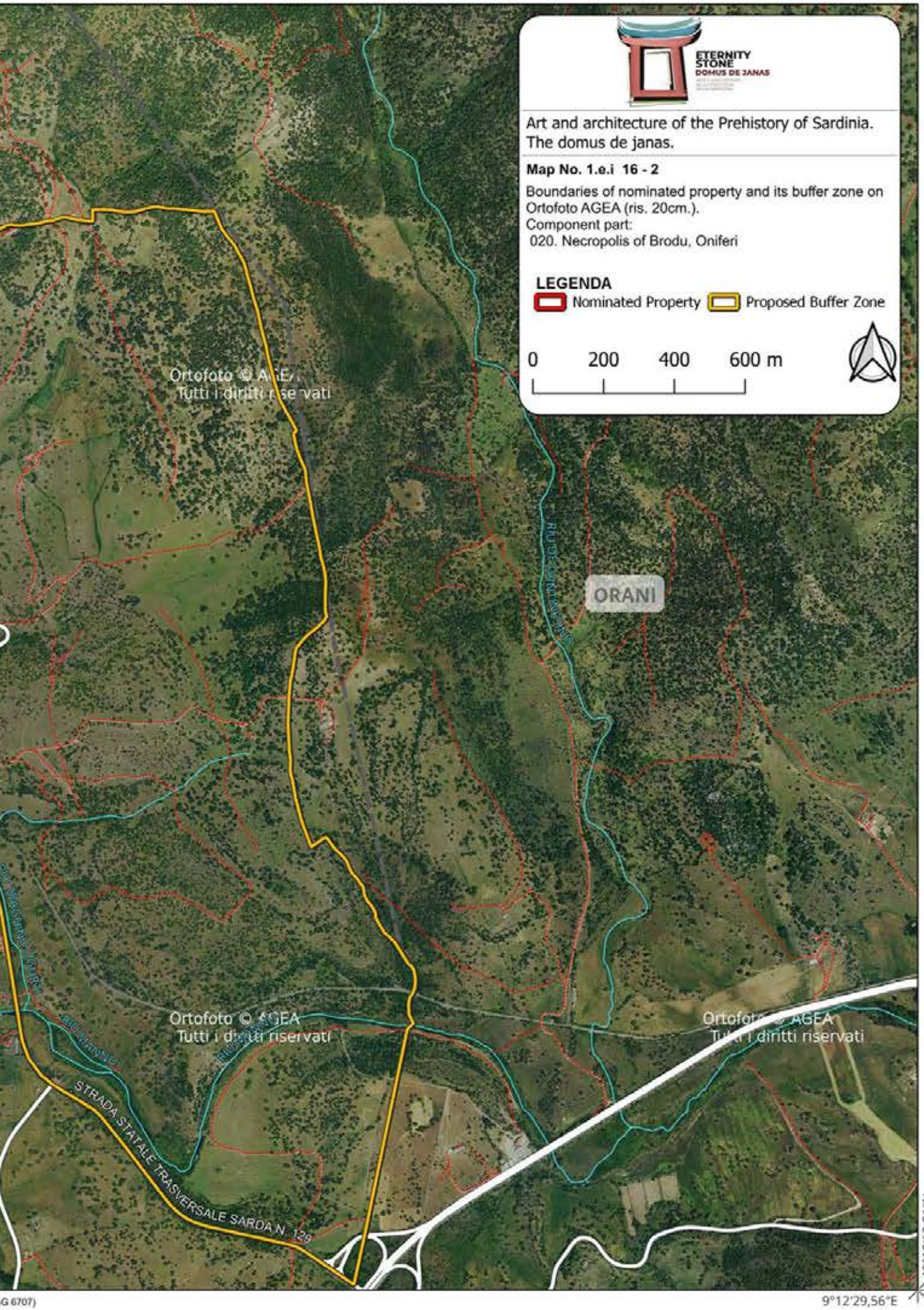

8°56'03,08"E
40°05'31,05"N
Archaeological Map
I
II
Ludu
de
489
40°04'54,21"N
8°56'03,08"E

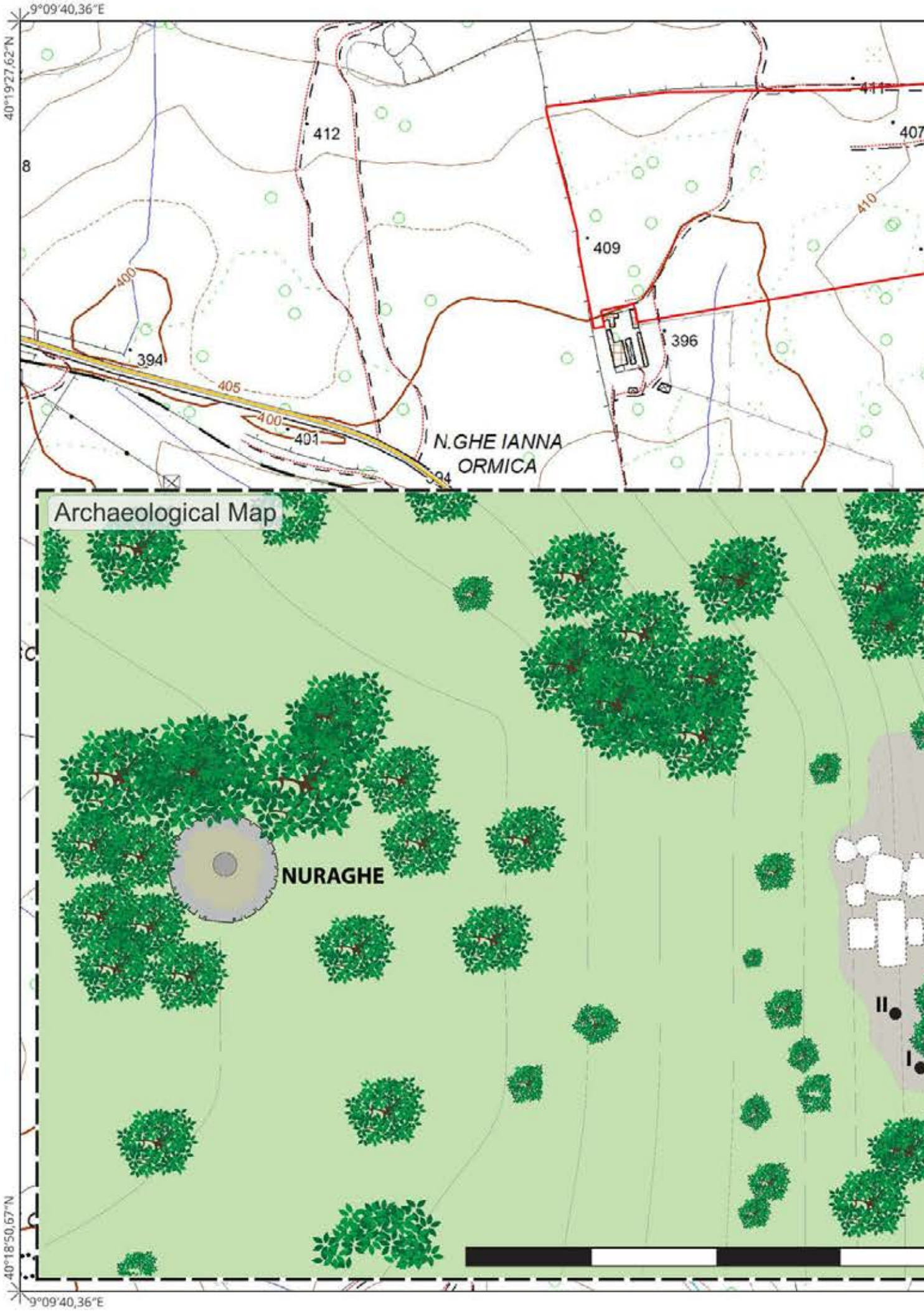

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 15 - a
Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
019. Necropolis of Mandras (Mrangias), Ardauli
LEGENDA
Nominated Property
Proposed Buffer Zone
Detail of Archaeological Map
Monuments
0
80
160
240 m
30 m
LONGA
ALINOS
ARDAULI
566
570
565
585
586
583
540
40°04'54,21"N
8°57'11,46"E

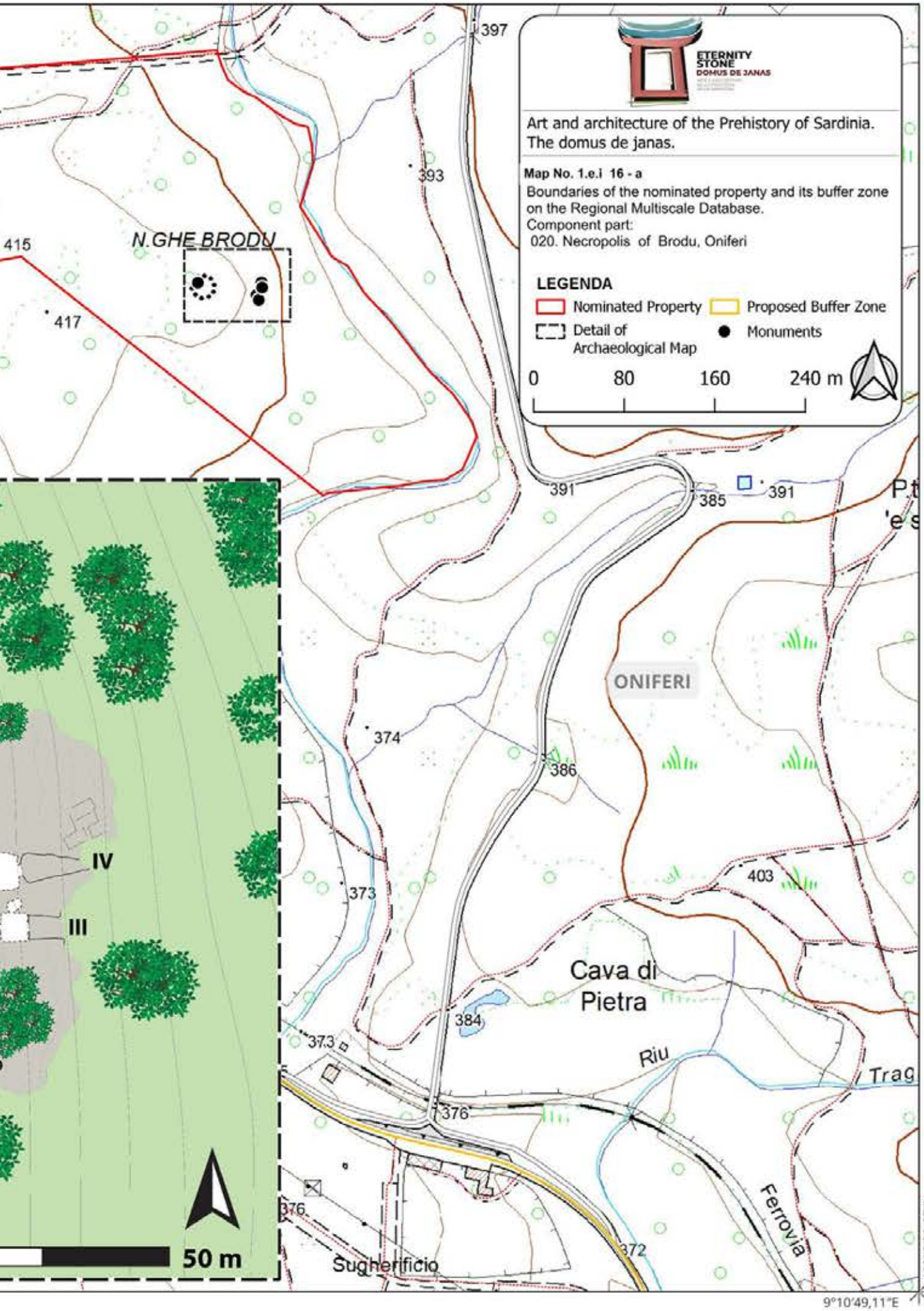

9°08'49,76"E
40°20'11,65"N
40°18'13,51"N
9°08'49,76"E
(Coordinate vertici EPSG 6707)
OROTELLI
ONIFERI
020
RIU SU ORTO
RIU SU ORTO
RIU PREDOSU
SA IANNA 'E SEBBA
CRASTA PORCHEDDOS
TUTTURIGHE
RESI
SAICCURUJA
STRADA PROVINCIALE DA SERRA N. 42

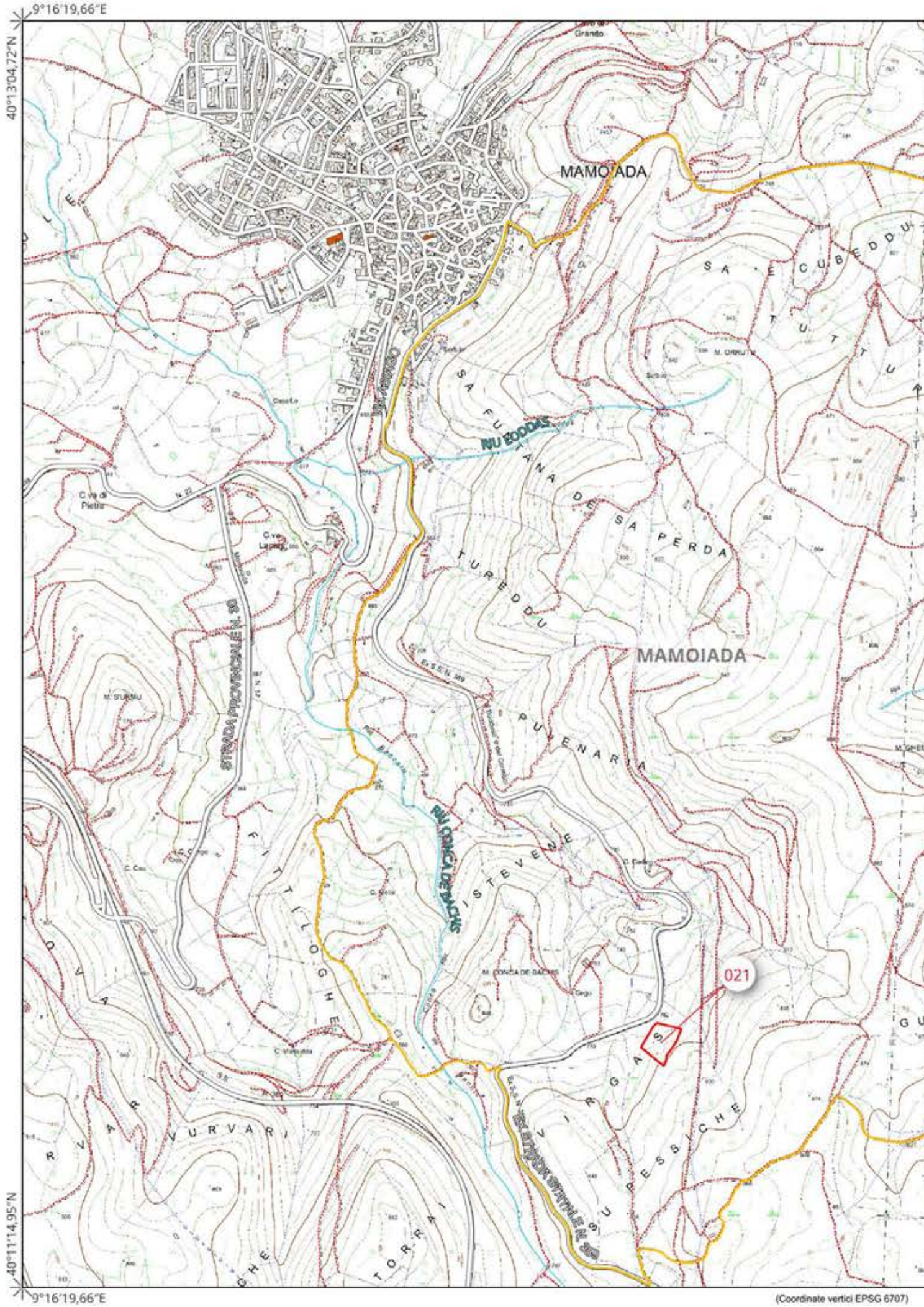

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 16 - 1
Boundaries of nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
020. Necropolis of Brodu, Oniferi
LEGENDA
Nominated Property
Proposed Buffer Zone
Other Cultural Heritage
Monumento nuragico
0
200
400
600 m
SA VUCCHITTA
RIU MANNU
STRADA STATALE TRASVERSALE SARDA N. 129
40°18'13,51"N
9°12'29,56"E

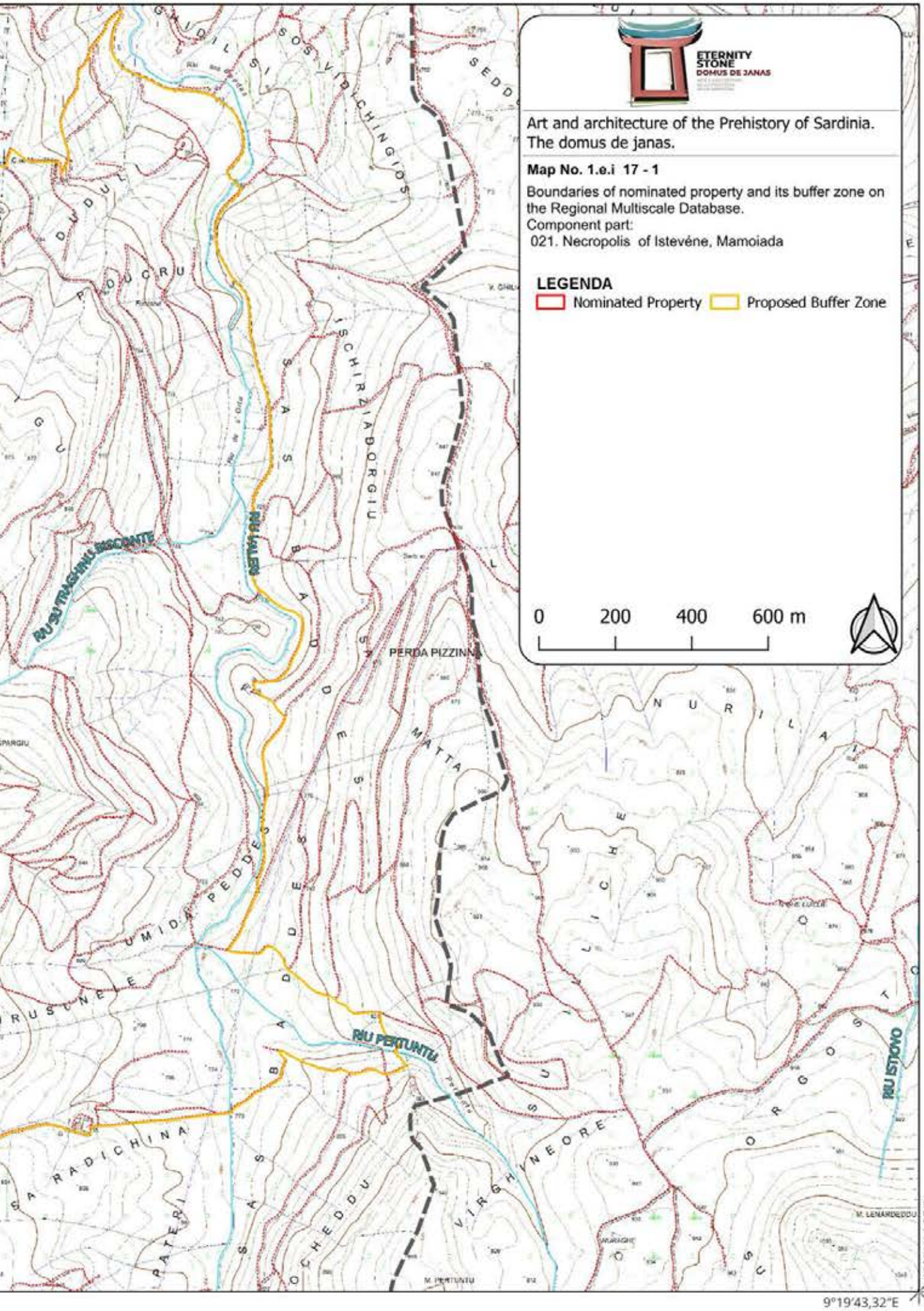

9°08'49,76"E
40°20'11,65"N
Ortofoto © AGEA
Tutti i diritti riservati
OROTELLI
RIU SU LOPPO
020
STRADA PROVINCIALE SA SERRA N. 47
RIU SU GOLOS
ONIFERI
RIU PREDOSU
Ortofoto © AGEA
Tutti i diritti riservati
40°18'13,51"N
9°08'49,76"E
(Coordinate vertici EPS


ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 16 - 2
Boundaries of nominated property and its buffer zone on Ortofoto AGEA (ris. 20cm.).
Component part:
020. Necropolis of Brodu, Oniferi
LEGENDA
Nominated Property
Proposed Buffer Zone
0 200 400 600 m
Ortofoto © AGEA
Tutti i diritti riservati
ORANI
STRADA STATALE TRASVERSALE SARDA N. 129
40°18'13,51"N
9°12'29,56"E

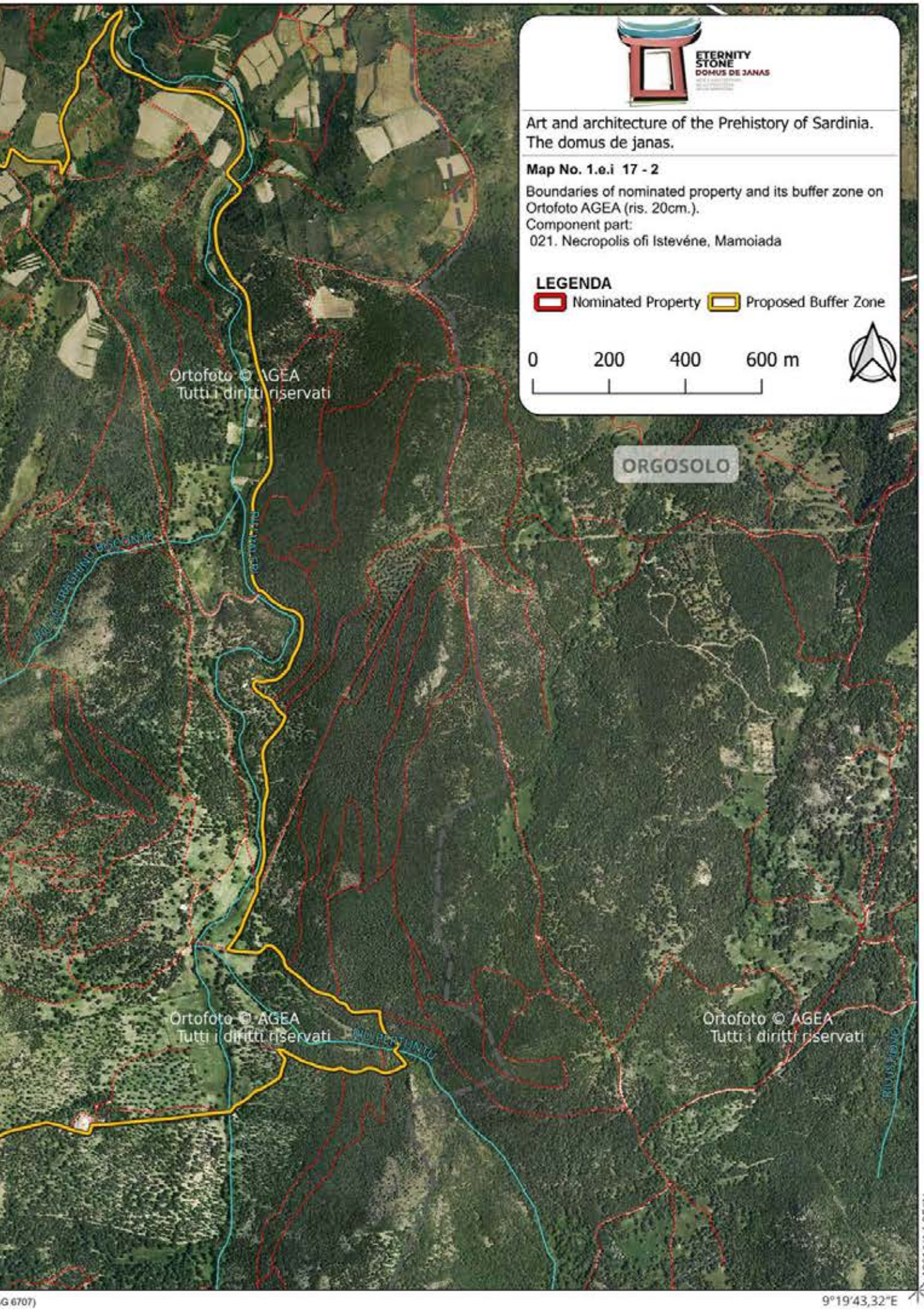

9°09'40,36"E
40°19'27,62"N
412
411
407
410
409
396
394
405
400
401
N.GHE IANNA
ORMICA
Archaeological Map
NURAGHE
II
I
40°18'50,67"N
9°09'40,36"E

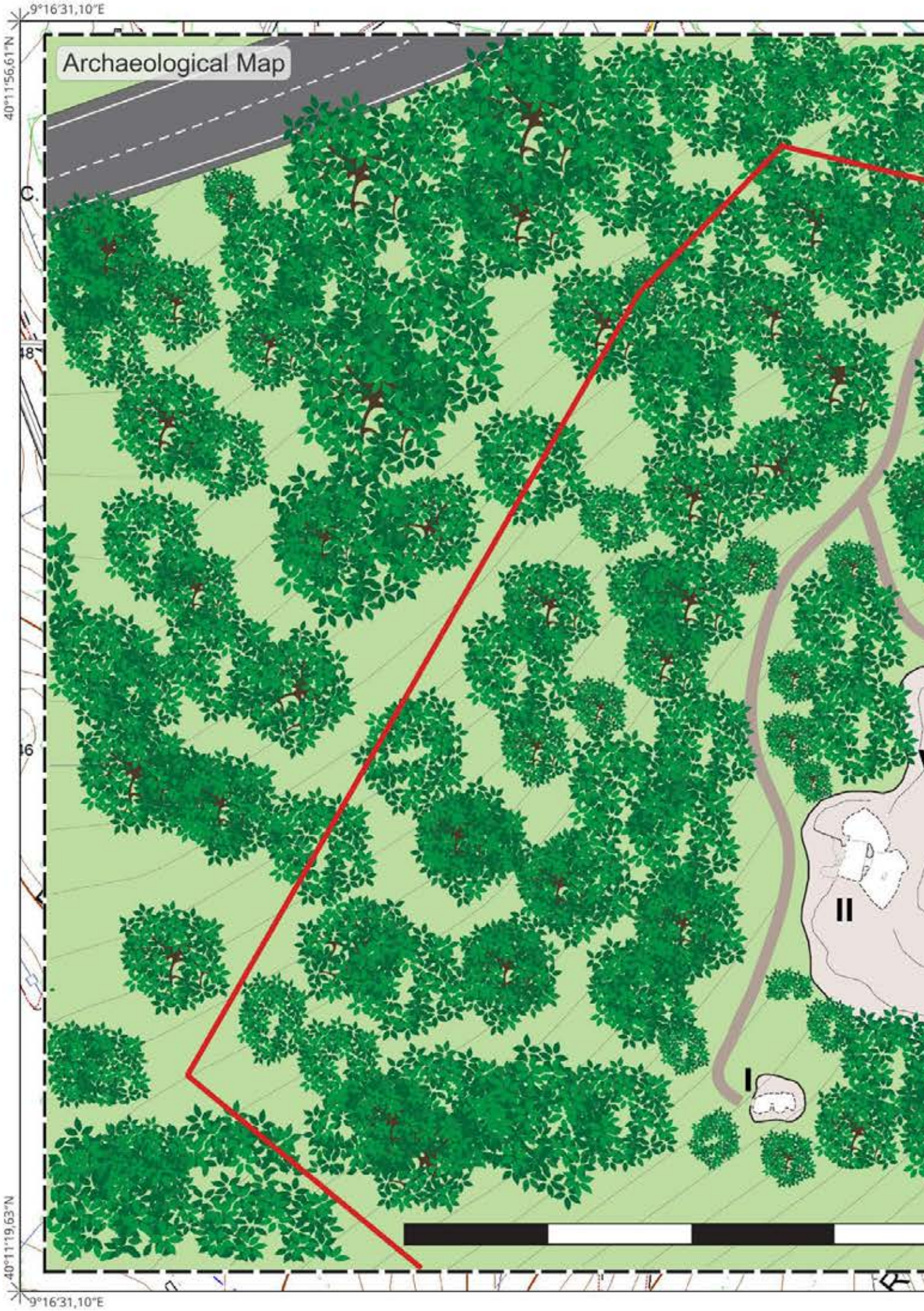

ETERNITY STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 16 - a
Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
020. Necropolis of Brodu, Oniferi
LEGENDA
Nominated Property
Proposed Buffer Zone
Detail of Archaeological Map
Monuments
0 80 160 240 m
N.GHE BRODU
ONIFERI
Cava di Pietra
Riu
Trag
Ferrovia
Sugherificio
IV
III
50 m
397
393
415
417
391
385
374
386
403
373
384
376
372
40°18'50,67"N
9°10'49,11"E

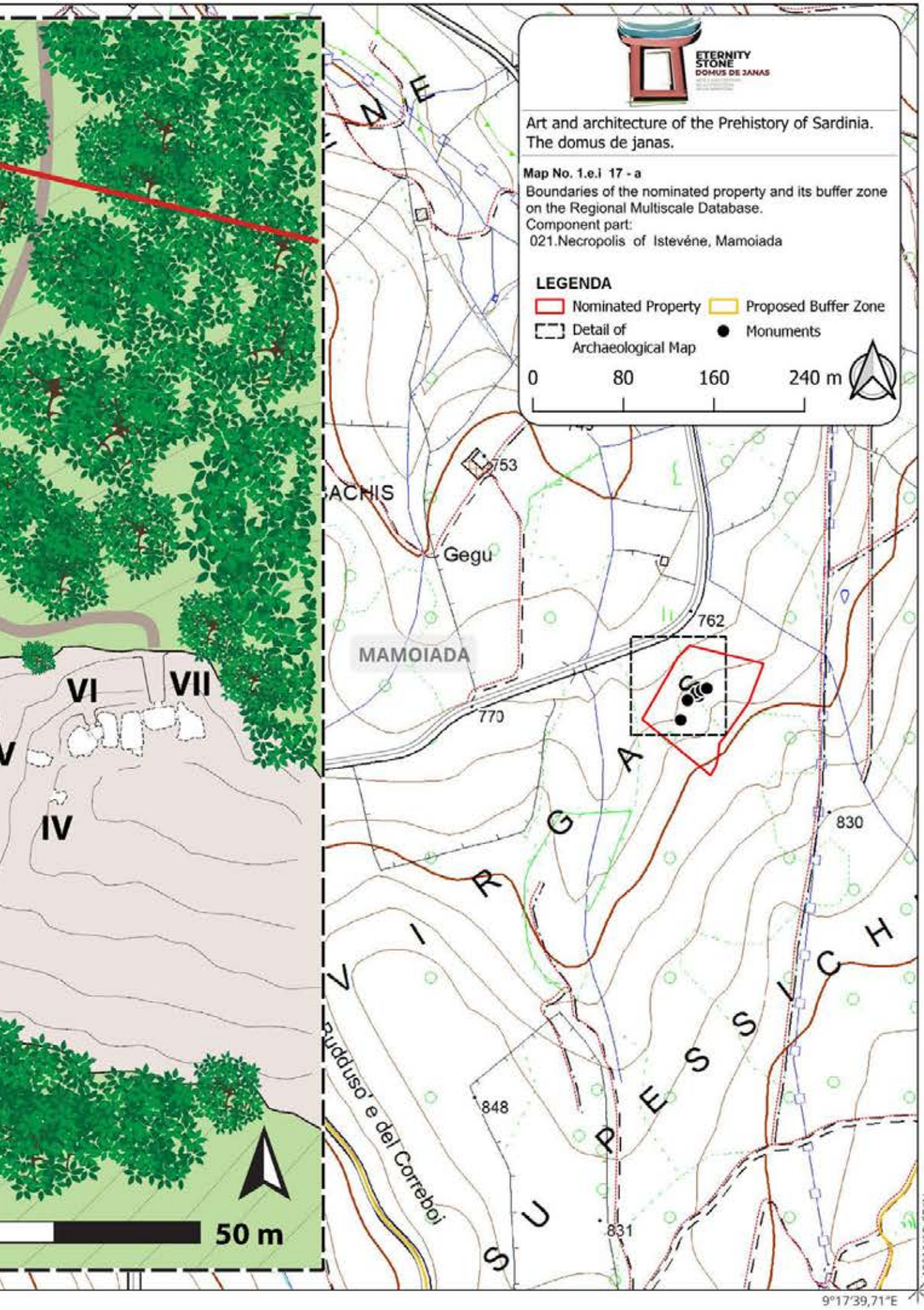

9°16'19,66"E
40°13'04,72"N
40°11'14,95"N
9°16'19,66"E
MAMOIADA
MAMOIADA
SA FUANA DE SA PERDA
TUREDDU
PUENARIA
STRADA PROVINCIALE N. 69
RIU CONCA DE BACCHIS
RIU BODDAS
021
(Coordinate vertici EPSG 6707)

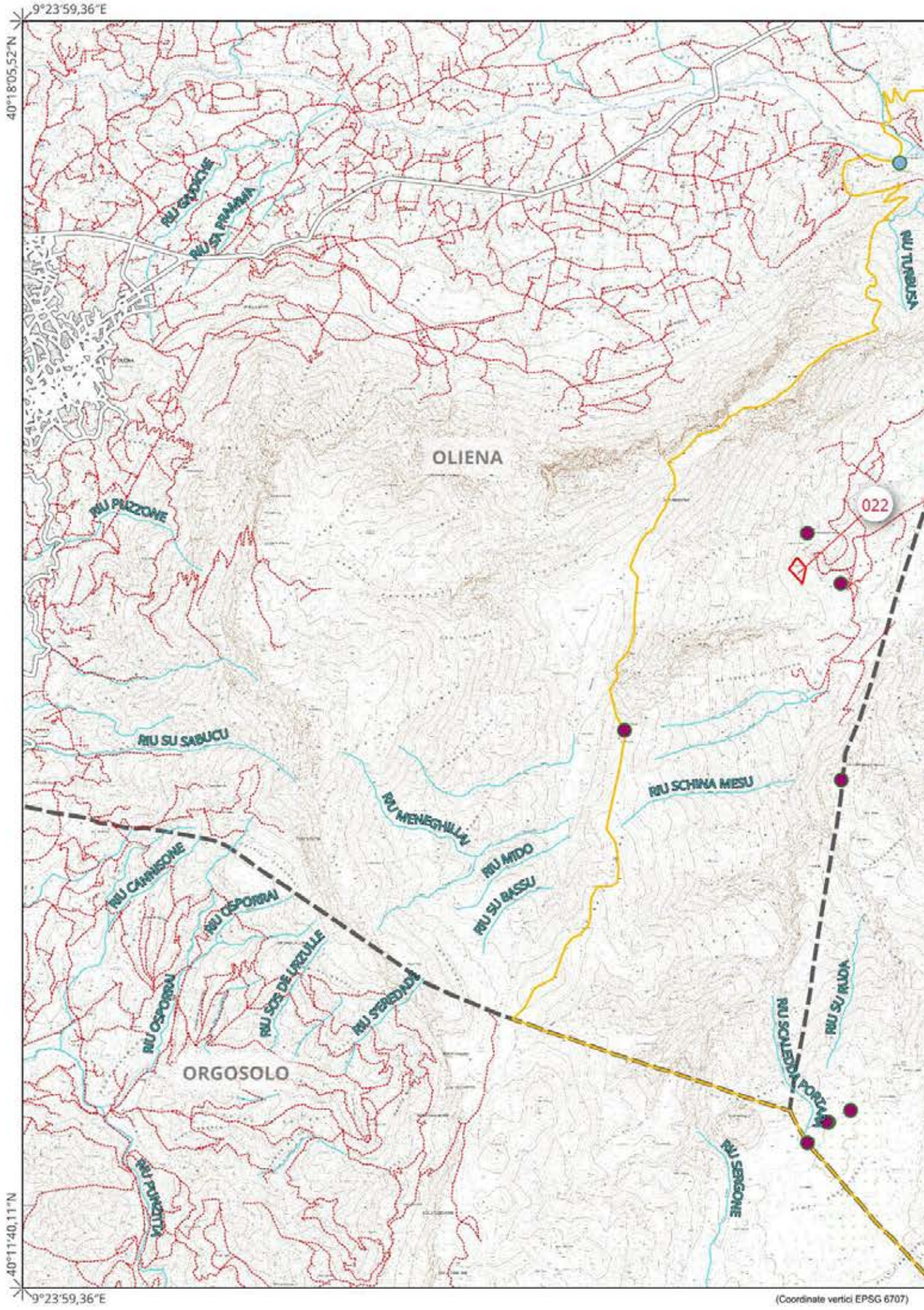

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 17 - 1
Boundaries of nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
021. Necropolis of Istevéne, Mamoiada
LEGENDA
Nominated Property
Proposed Buffer Zone
0
200
400
600 m
PERDA PIZZINNA
RIU PERTUNTU
RIU ISTIOVO
M. PERTUNTU
M. LENARENEDDU
40°11'14,95"N
9°19'43,32"E

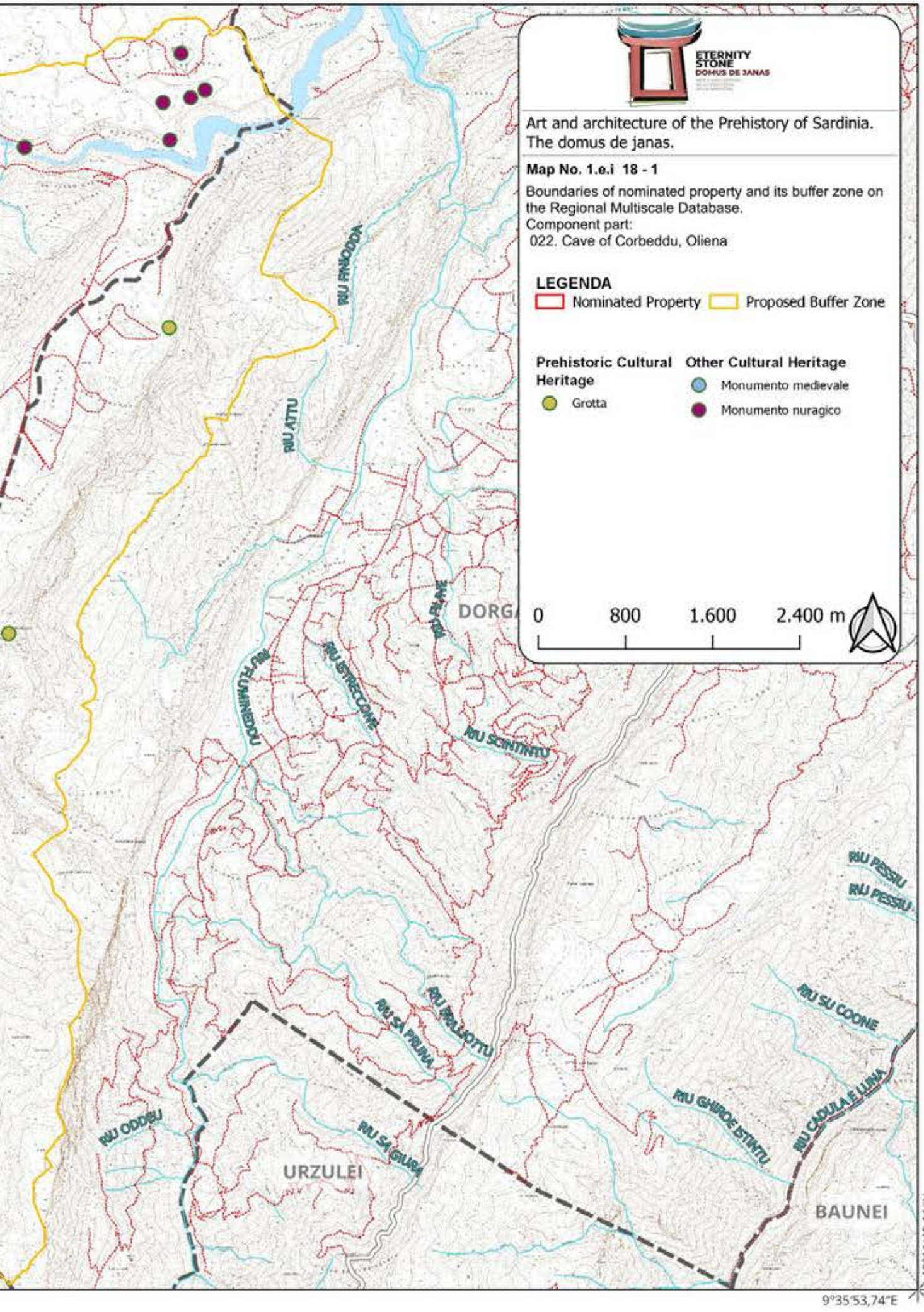
9°16'19,66"E
40°13'04,72"N
40°11'14,95"N
9°16'19,66"E
MAMOIADA
021
STRADA PROVINCIALE N. 30
EX STRADA STATALE N. 389
(Coordinate vertici EPS

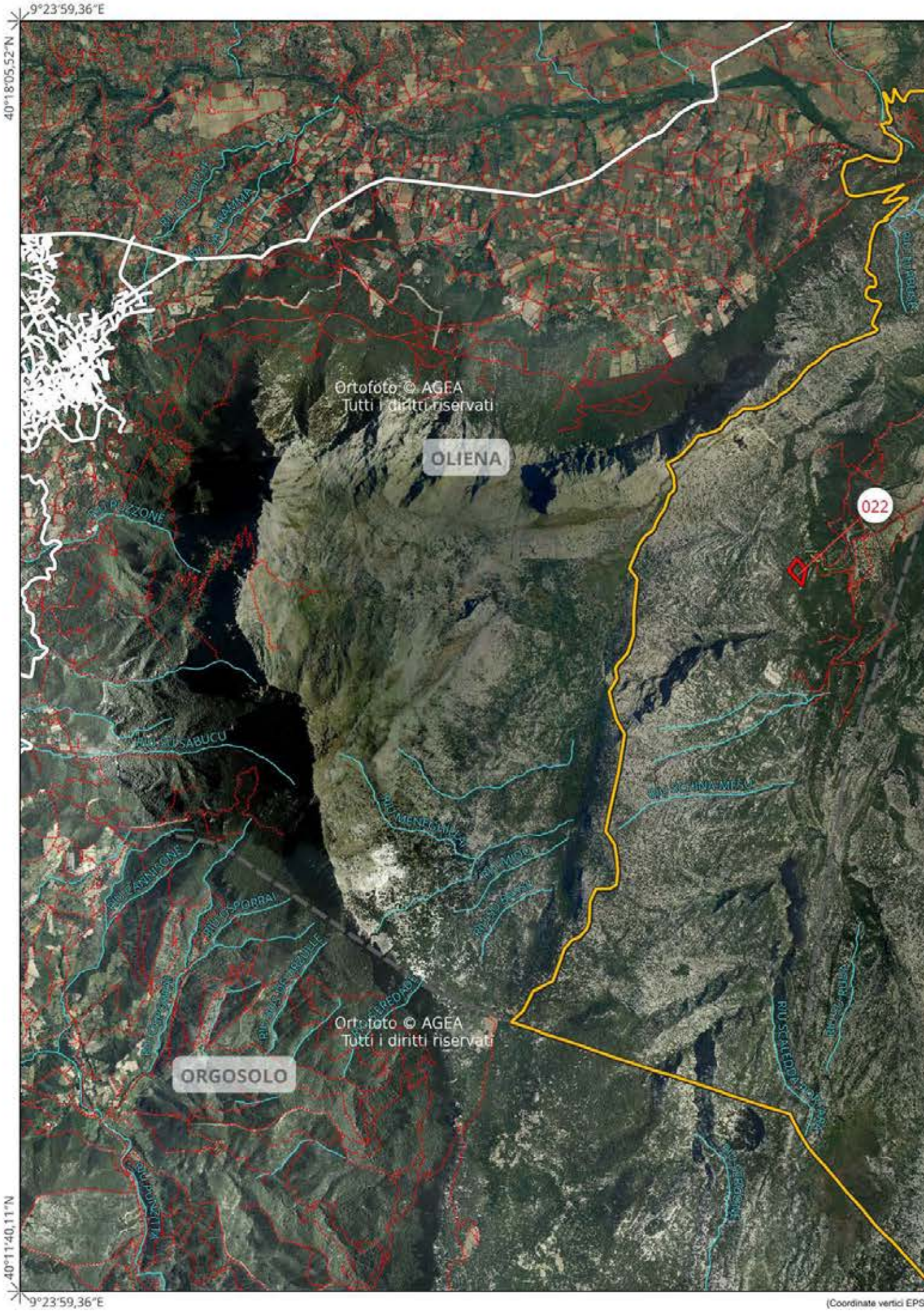

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 17 - 2
Boundaries of nominated property and its buffer zone on Ortofoto AGEA (ris. 20cm.).
Component part:
021. Necropolis ofi Istevéne, Mamoiada
LEGENDA
Nominated Property
Proposed Buffer Zone
0
200
400
600 m
Ortofoto © AGEA
Tutti i diritti riservati
ORGOSOLO
Ortofoto © AGEA
Tutti i diritti riservati
Ortofoto © AGEA
Tutti i diritti riservati
40°11'14,95"N
9°19'43,32"E

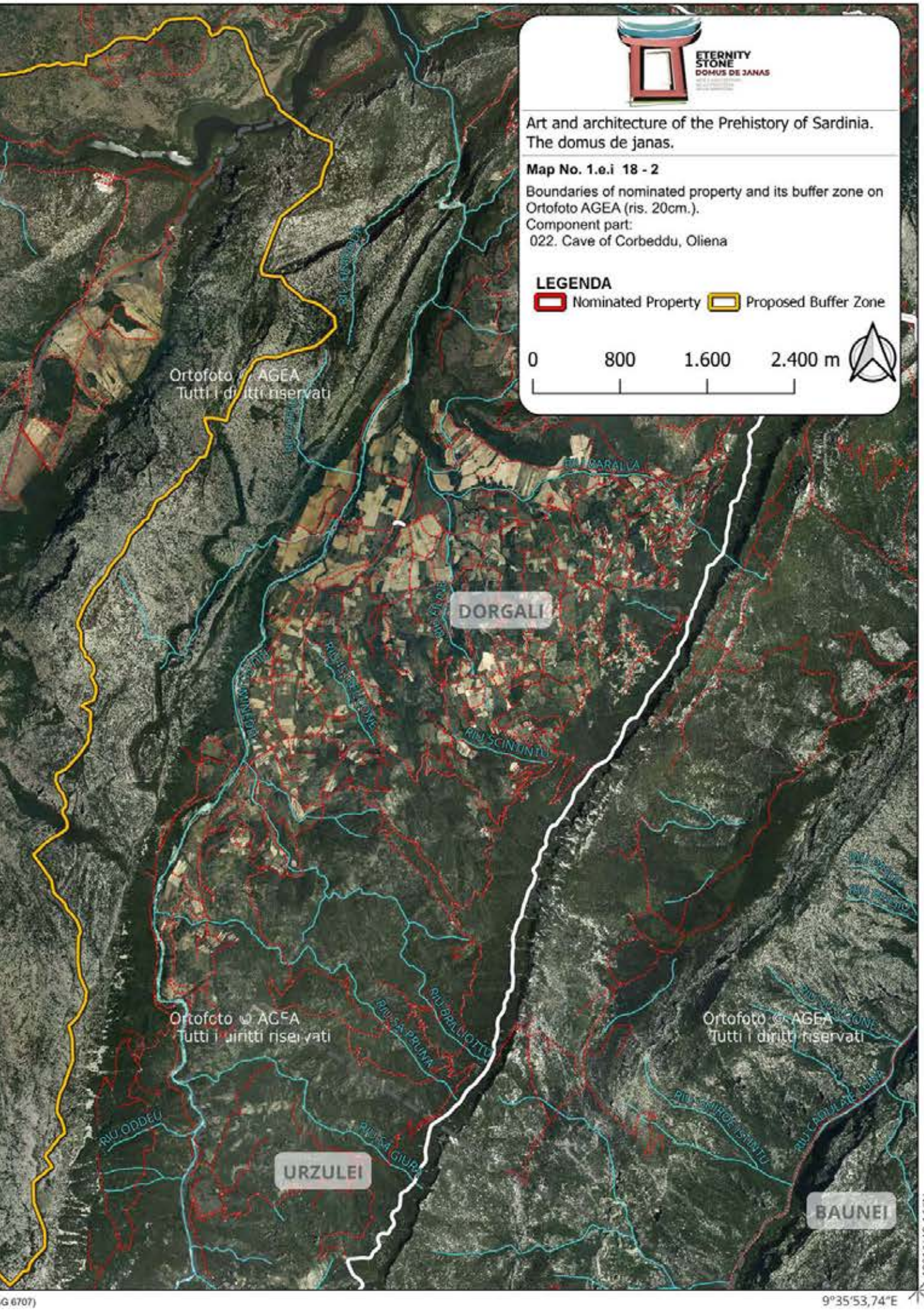

9°16'31,10"E
40°11'56,61"N
Archaeological Map
C.
48
46
II
I
40°11'19,63"N
9°16'31,10"E

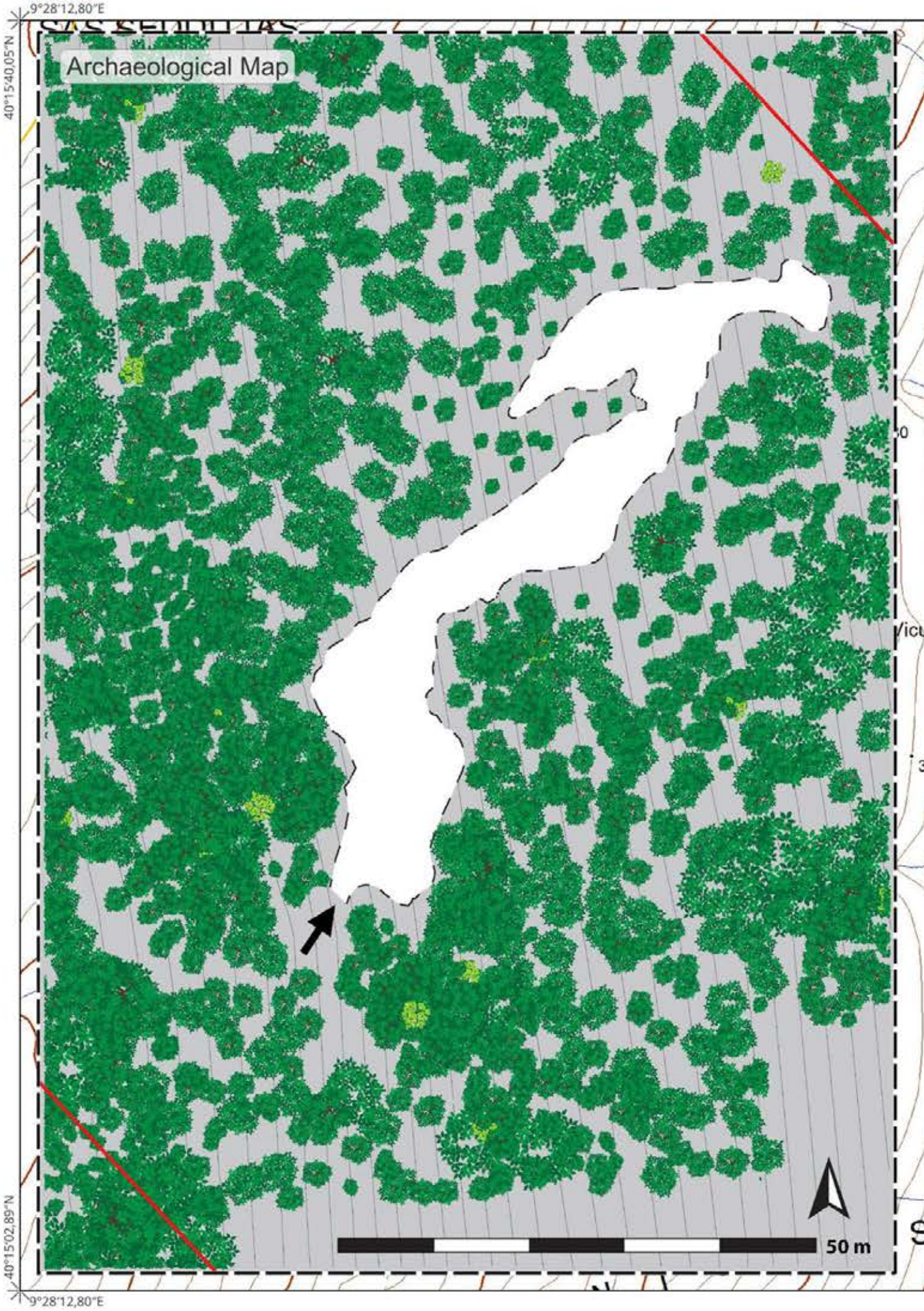

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 17 - a
Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
021.Necropolis of Istevéne, Mamoiada
LEGENDA
Nominated Property
Proposed Buffer Zone
Detail of Archaeological Map
Monuments
0
80
160
240 m
753
ACHIS
Gegu
762
MAMOIADA
770
830
848
831
VI
VII
V
IV
50 m
9°17'39,71"E
40°11'19,63"N

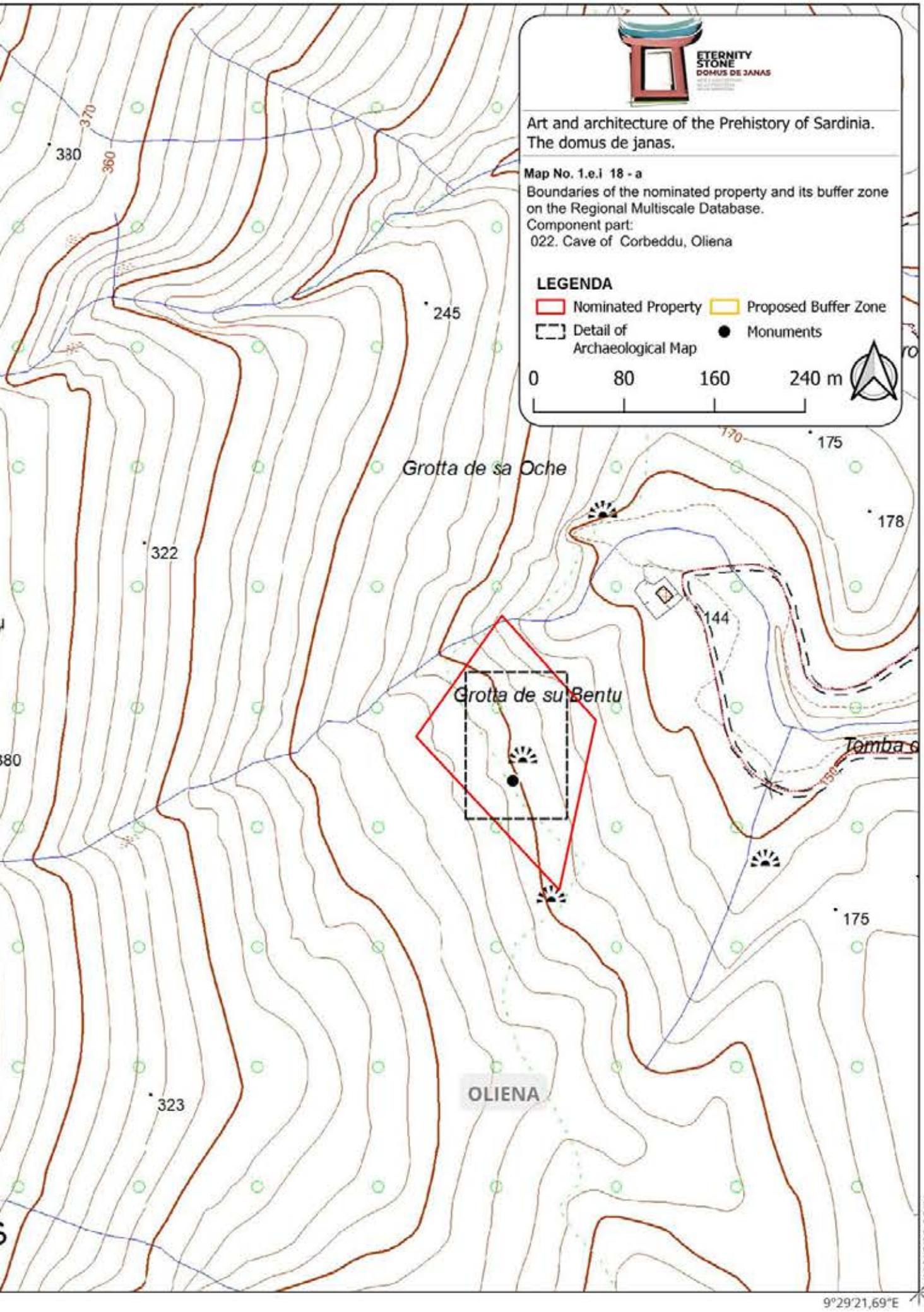

9°23'59,36"E
40°18'05,52"N
40°11'40,11"N
9°23'59,36"E
(Coordinate vertici EPSG 6707)
OLIENA
ORGOSOLO
022
RIU GRUDACHE
RIU SA PRAMMA
RIU TURBUSA
RIU PUZZONE
RIU SU SABUCU
RIU MENEGHILLAI
RIU SCHINA MESU
RIU MIDO
RIU SU BASSU
RIU CANNEDONE
RIU OSPORRAI
RIU SCIOS DE URZULLE
RIU S'EREDADE
RIU SCHLEDDA PORCHAI
RIU SU RUDA
RIU SERGONE
RIU PUNTZIA

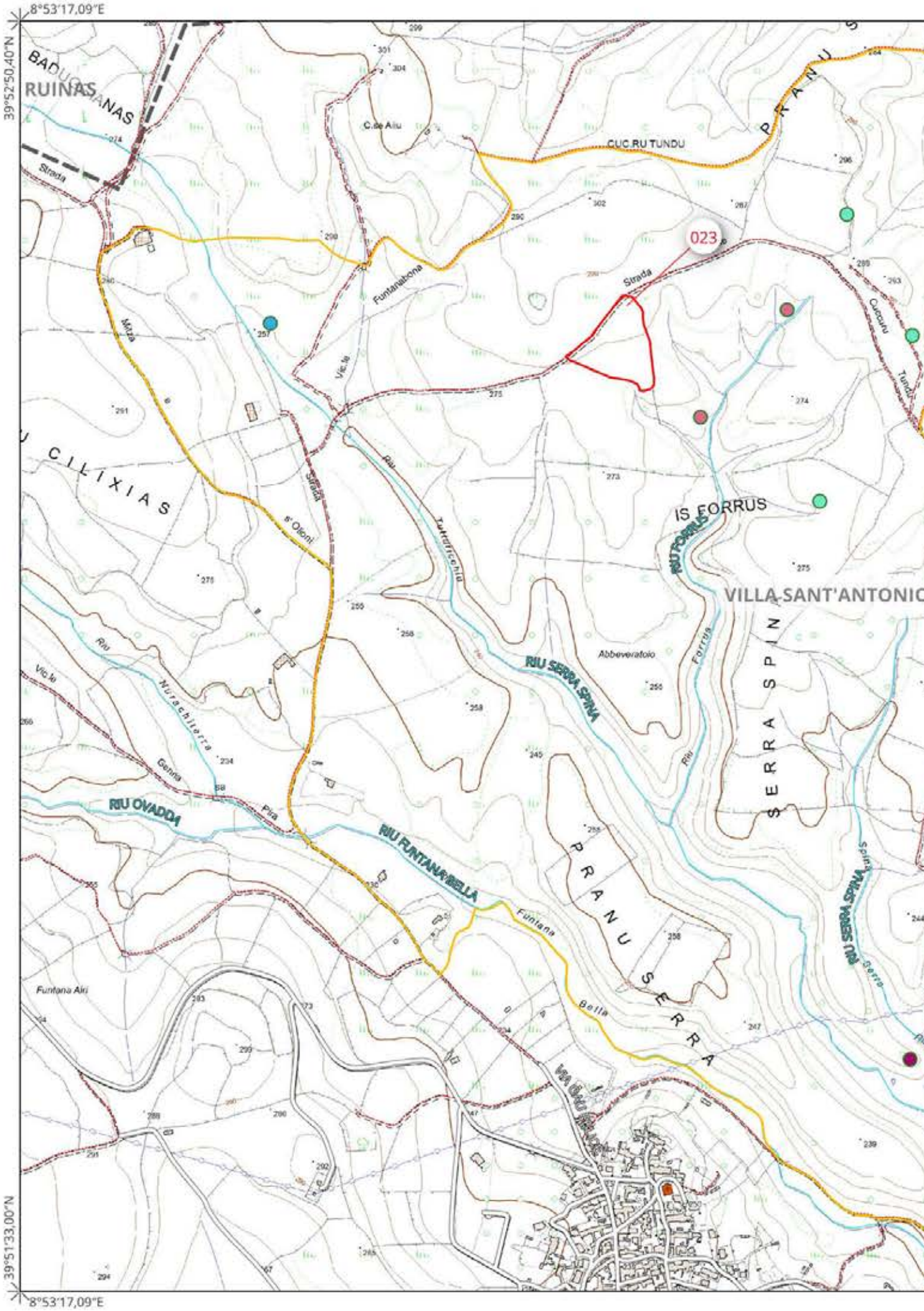

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 18 - 1
Boundaries of nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
022. Cave of Corbeddu, Oliena
LEGENDA
Nominated Property
Proposed Buffer Zone
Prehistoric Cultural Heritage
Grotta
Other Cultural Heritage
Monumento medievale
Monumento nuragico
0
800
1.600
2.400 m
RIU FINNODDA
RIU AJTTU
RIU ISTRECCONE
RIU SCINTINTU
RIU PESSIU
RIU SU COONE
RIU GHIROE ISTINTU
RIU CADULA E LUNA
RIU SA PRUNA
RIU BRULLOTTU
RIU SA GIUA
RIU ODDOBU
DORGA
URZULEI
BAUNEI
40°11'40,11"N
9°35'53,74"E

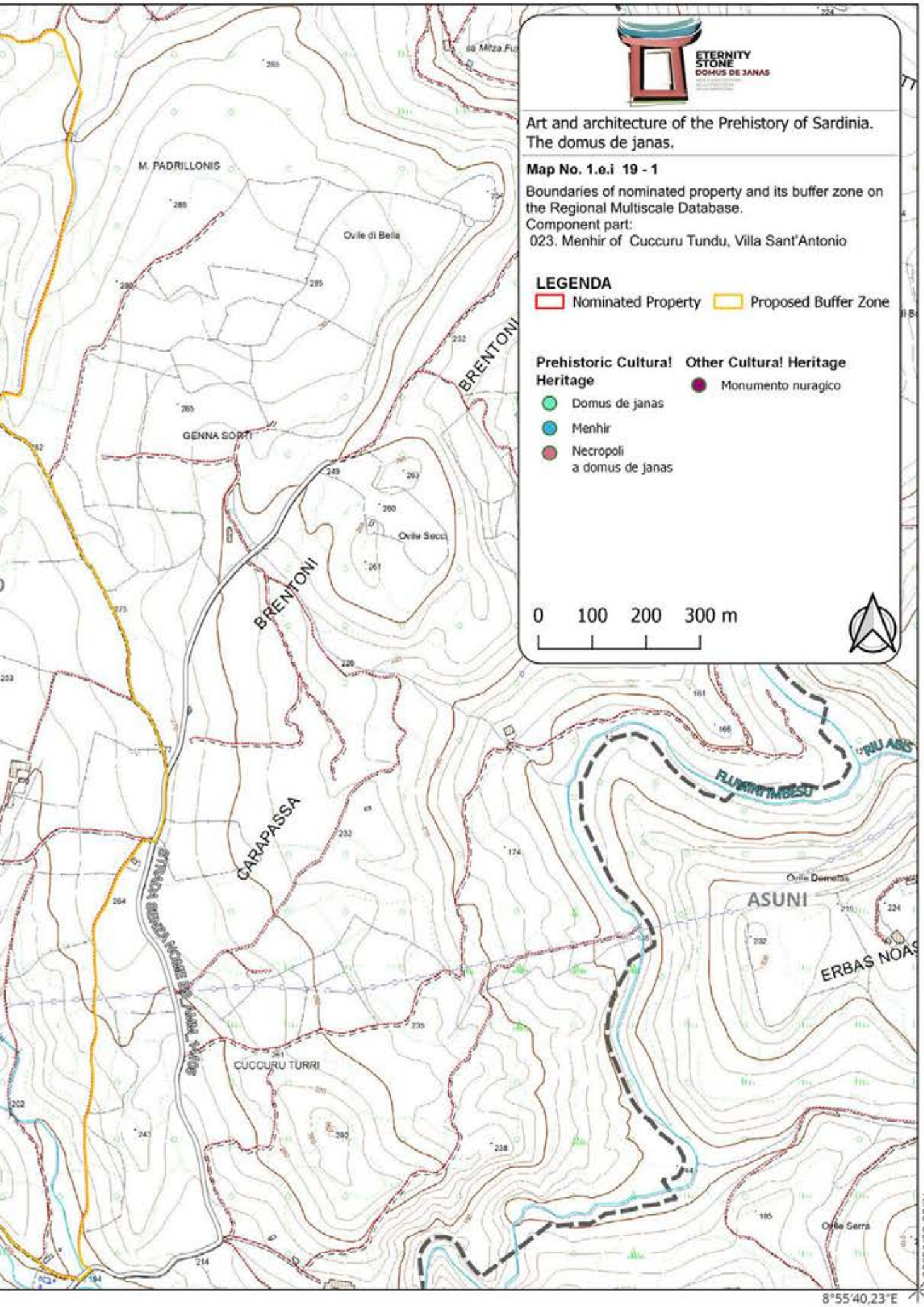

9°23'59,36"E
40°18'05,52"N
Ortofoto © AGEA
Tutti i diritti riservati
OLIENA
022
Ortofoto © AGEA
Tutti i diritti riservati
ORGOSOLO
40°11'40,11"N
9°23'59,36"E

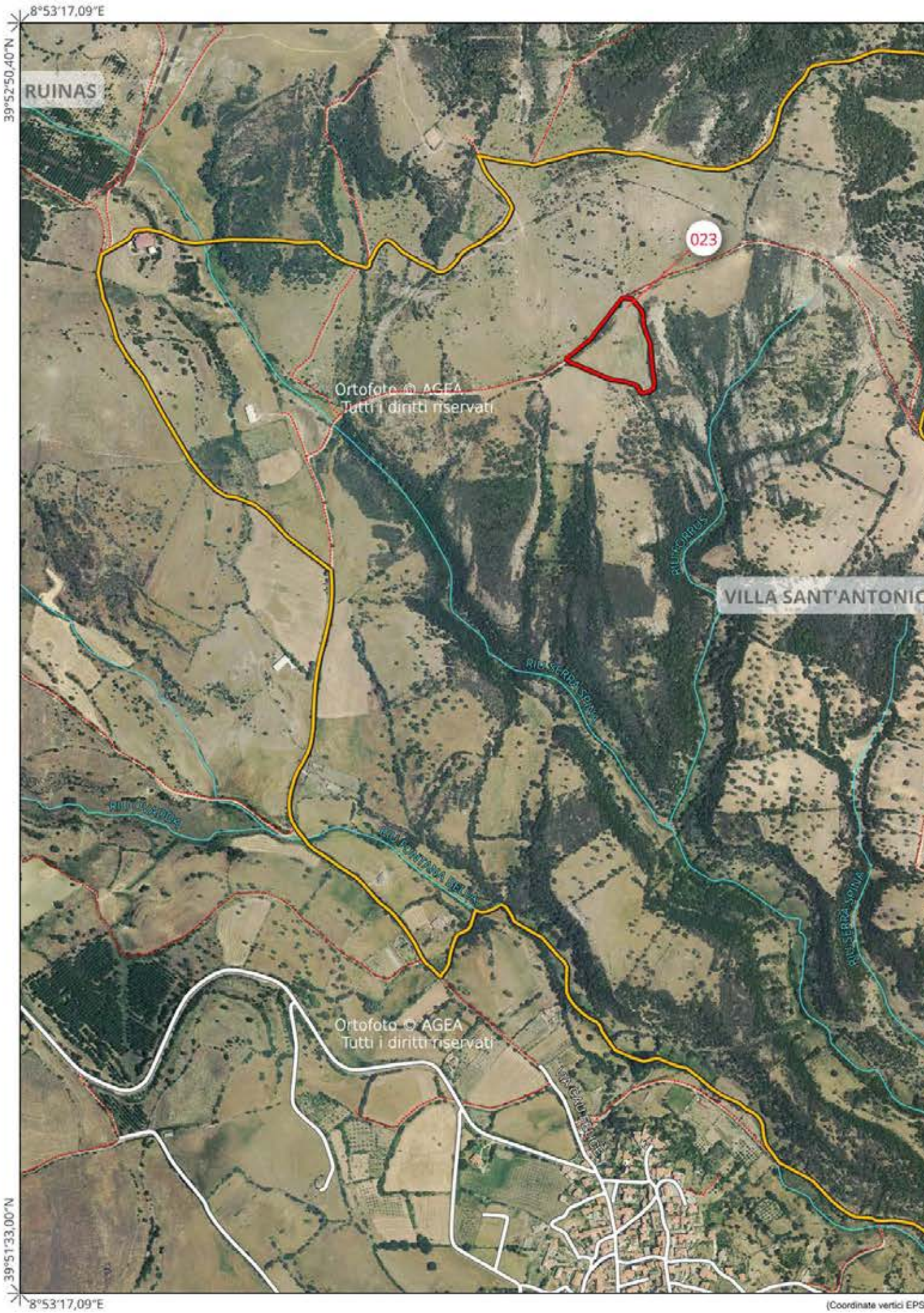

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 18 - 2
Boundaries of nominated property and its buffer zone on Ortofoto AGEA (ris. 20cm.).
Component part:
022. Cave of Corbeddu, Oliena
LEGENDA
Nominated Property
Proposed Buffer Zone
0
800
1.600
2.400 m
Ortofoto © AGEA
Tutti i diritti riservati
DORGALI
URZULEI
BAUNEI
RIU CARALLA
RIU SCINTINTU
RIU ODDEU
RIU GIUA
RIU CADULAI
9°35'53,74"E
40°11'40,11"N

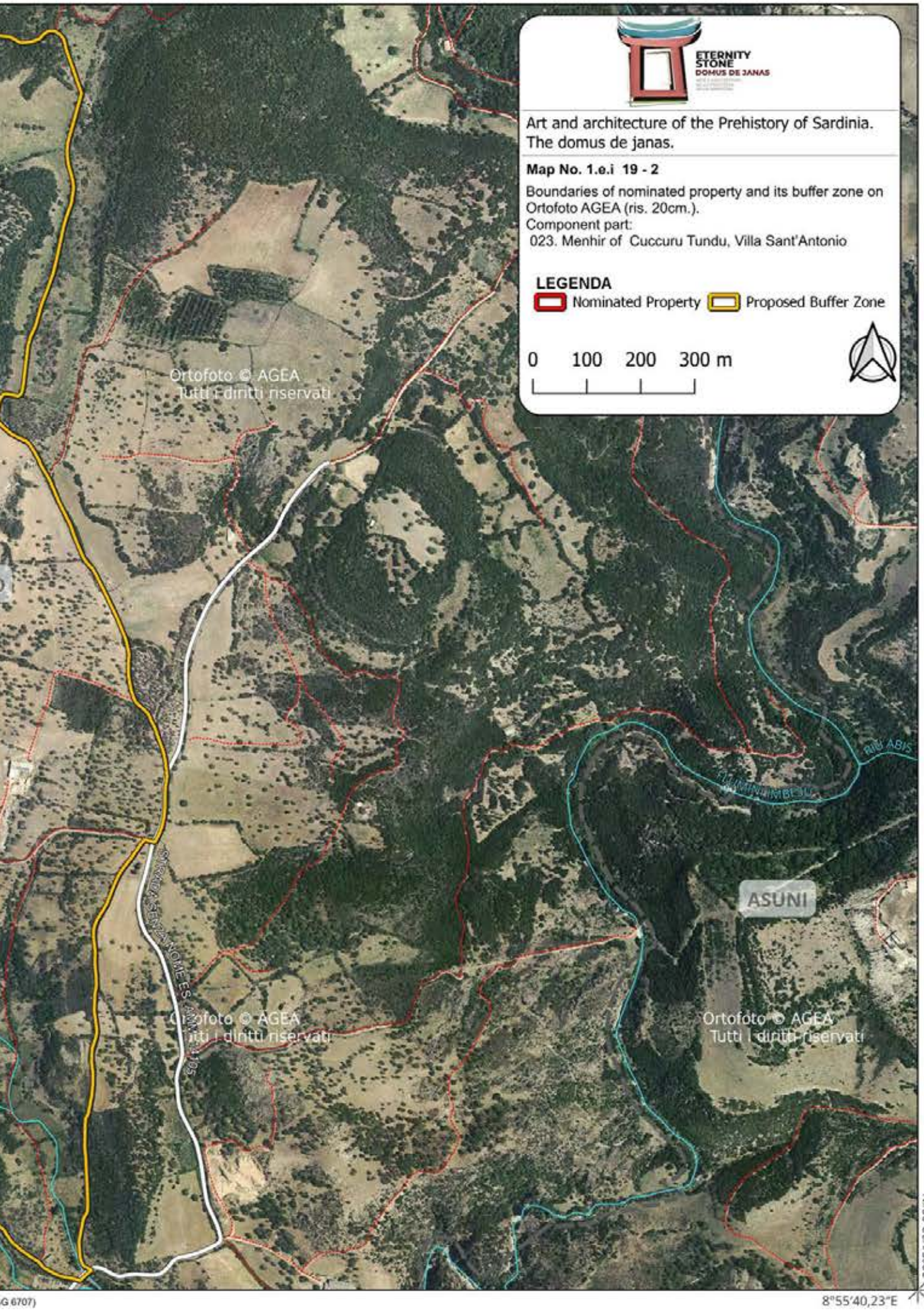

9°28'12,80"E
Archaeological Map
40°15'40,05"N
40°15'02,89"N
9°28'12,80"E
50 m

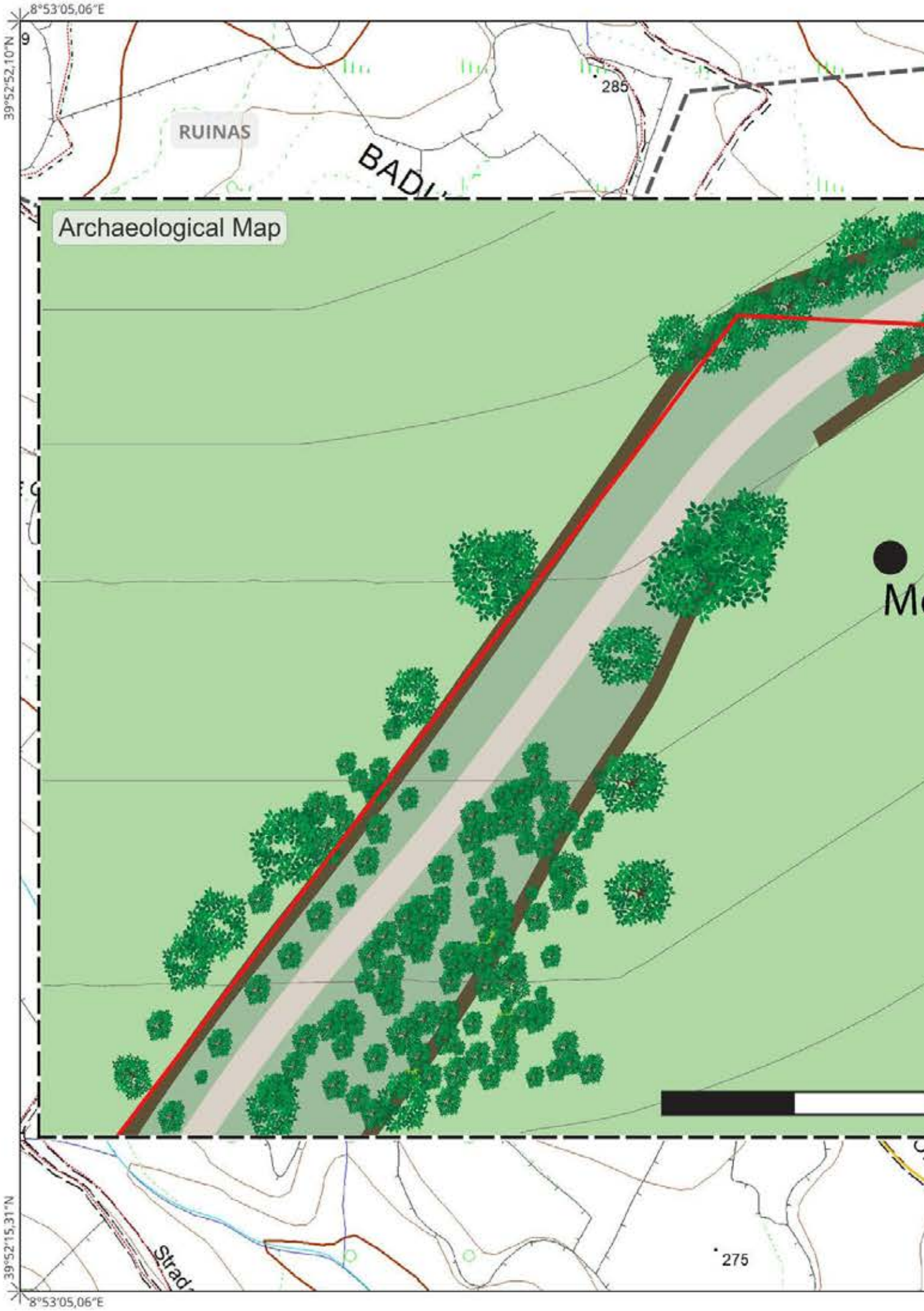

ETERNITY STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 18 - a
Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
022. Cave of Corbeddu, Oliena
LEGENDA
Nominated Property
Proposed Buffer Zone
Detail of Archaeological Map
Monuments
0
80
160
240 m
Grotta de sa Oche
Grotta de su Bentu
Tomba d
OLIENA
380
370
360
245
322
323
175
178
144
150
170
40°15'02,89"N
9°29'21,69"E

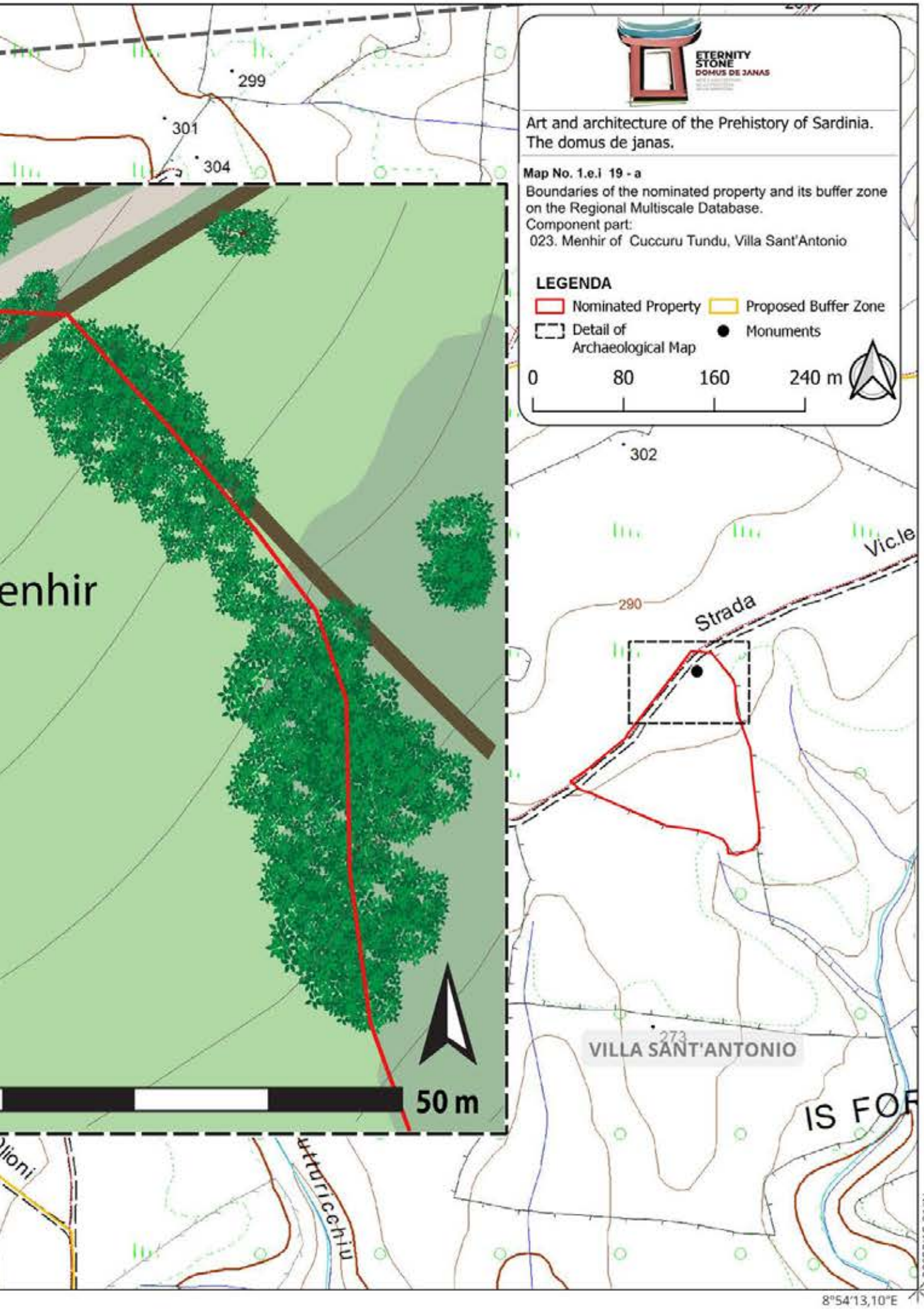

8°53'17,09"E
39°52'50,40"N
39°51'33,00"N
8°53'17,09"E
RUINAS
Strada
C.de Aliu
CUC.RU TUNDU
023
Funtanabona
Strada
Cucuru
Tundu
Mura
Vic.le
Strada
s' Olioni
Riu
Tuttaricchia
IS FORRUS
RIU FORRUS
VILLA SANT'ANTONIO
SERRA SPINA
Abbeveratoio
Forrus
Riu
RIU SERRA SPINA
Riu
Vic.le
Nuraghiterra
Genna
Pira
RIU OVADDA
RIU FUNTANA BELLA
Funtana
Bella
PRANU SERRA
Funtana Alri
Spinta
Serra
RIU SERRA SPINA

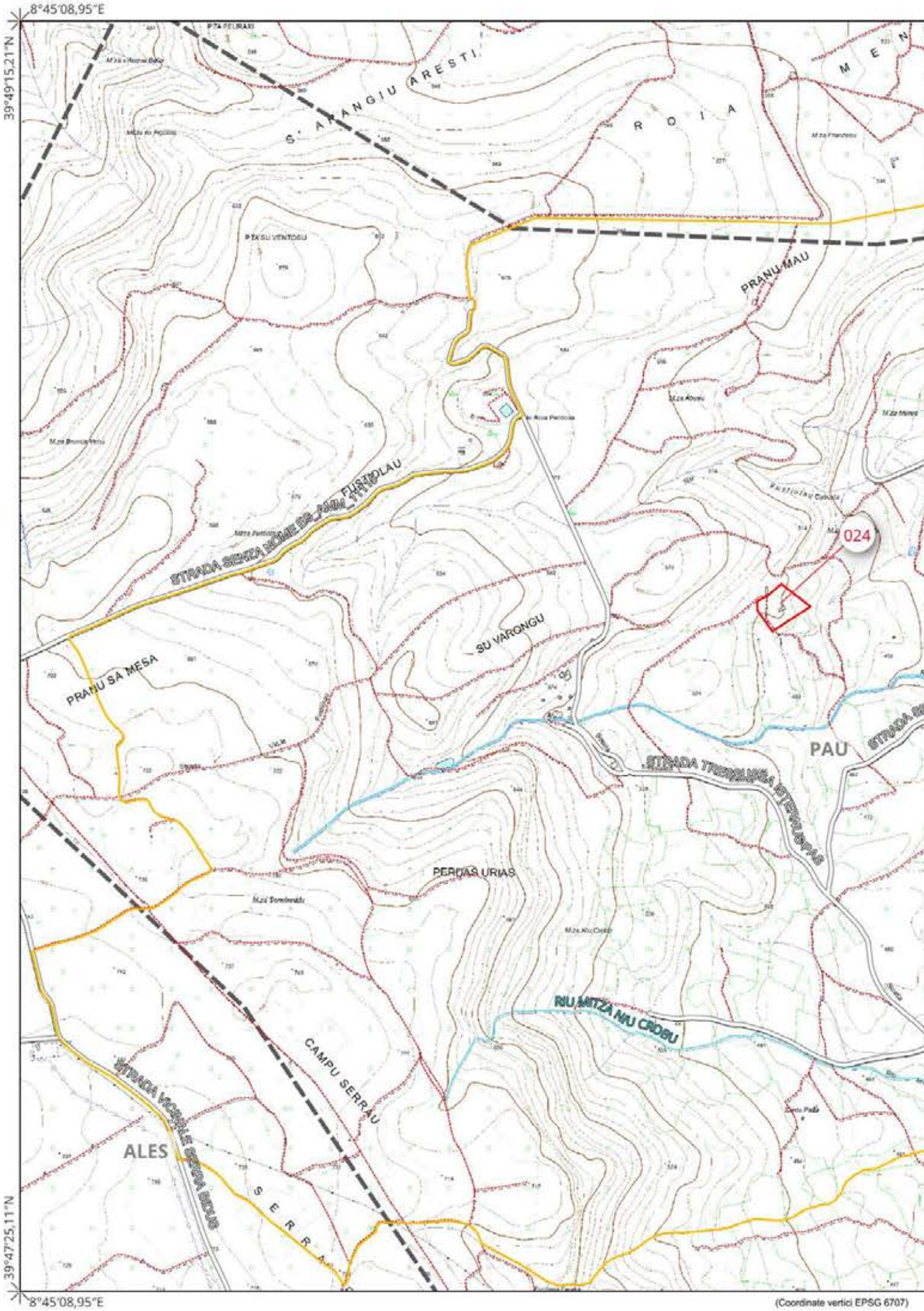

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 19 - 1
Boundaries of nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
023. Menhir of Cuccuru Tundu, Villa Sant'Antonio
LEGENDA
Nominated Property
Proposed Buffer Zone
Prehistoric Cultural Heritage
Domus de janas
Menhir
Necropoli a domus de janas
Other Cultural Heritage
Monumento nuragico
0 100 200 300 m
M. PADRILLONIS
Ovile di Bella
GENNA SORTI
BRENTONI
Ovile Secu
CARAPASSA
CUCCURU TURRI
RIU ABIS
ASUNI
ERBAS NOAS
Ovile Serra
39°51'33,00"N
8°55'40,23"E

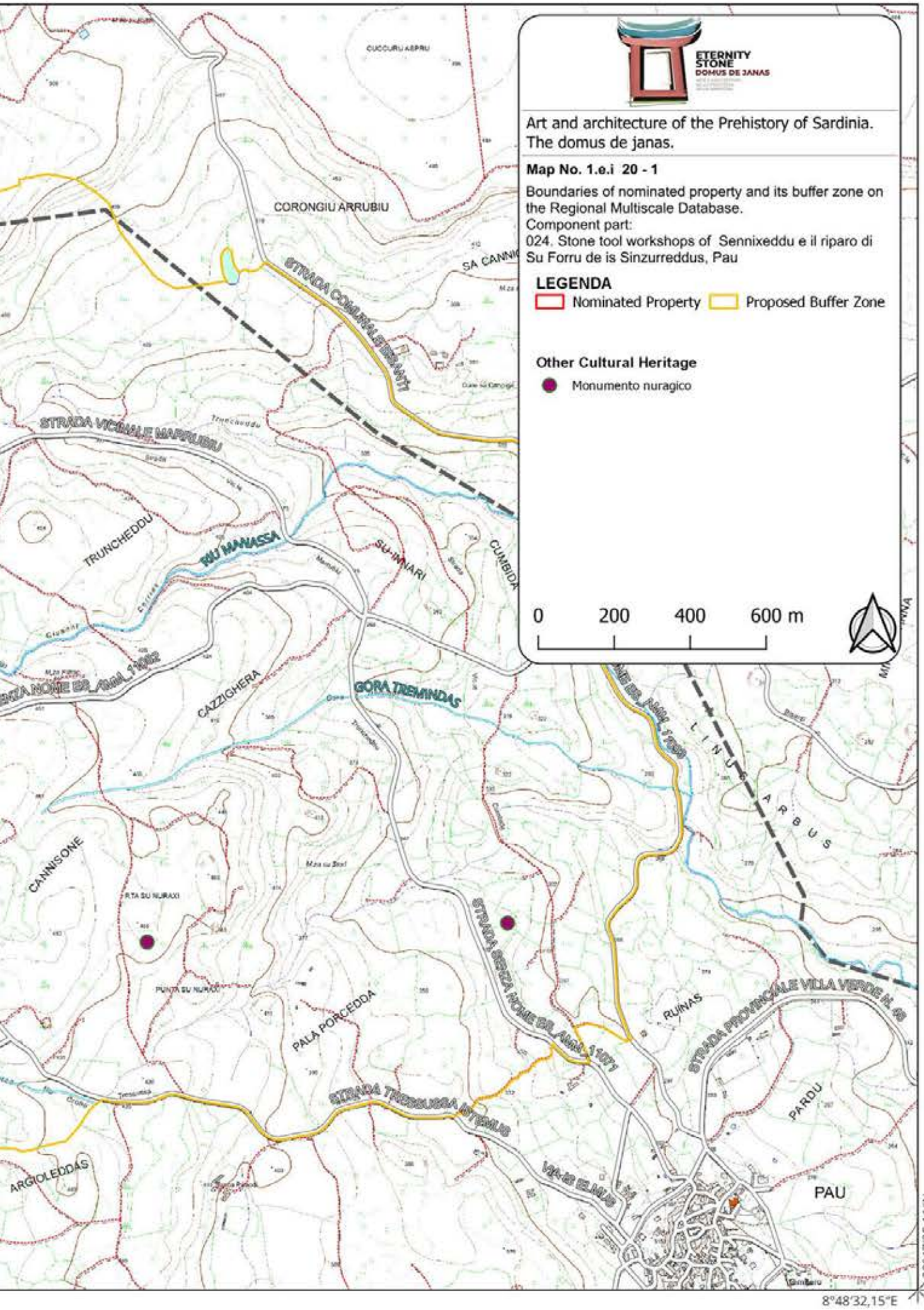

8°53'17.09"E
39°52'50.40"N
RUINAS
023
Ortofoto © AGEA
Tutti i diritti riservati
VILLA SANT'ANTONIO
RIU SERRA SPINA
Ortofoto © AGEA
Tutti i diritti riservati
39°51'33.00"N
8°53'17,09"E
(Coordinate vertici EPS

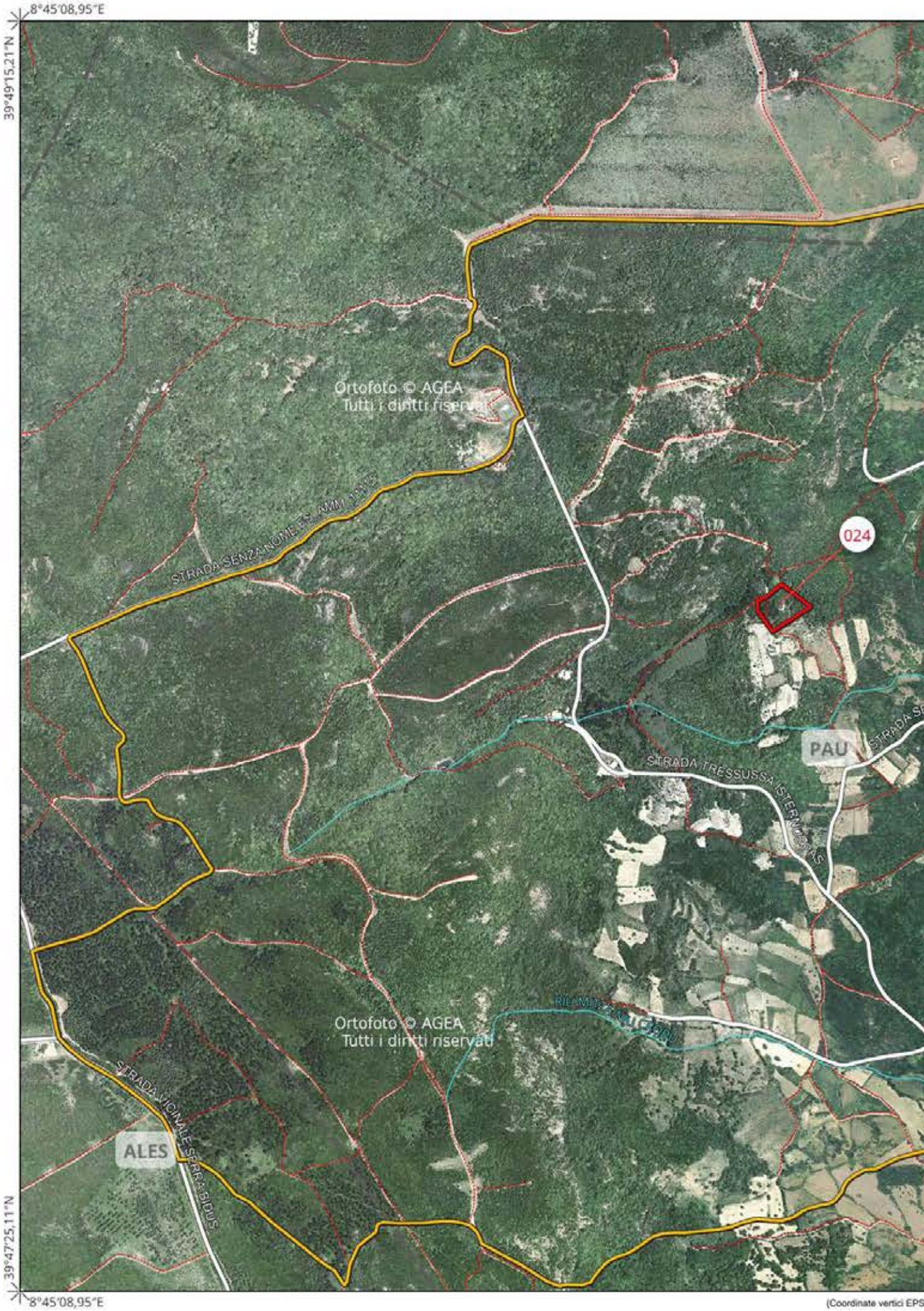

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 19 - 2
Boundaries of nominated property and its buffer zone on Ortofoto AGEA (ris. 20cm.).
Component part:
023. Menhir of Cuccuru Tundu, Villa Sant'Antonio
LEGENDA
Nominated Property
Proposed Buffer Zone
0 100 200 300 m
Ortofoto © AGEA
Tutti i diritti riservati
ASUNI
8°55'40,23"E
39°51'33,00"N


8°53'05,06"E
39°52'52,10"N
RUINAS
285
Archaeological Map
39°52'15,31"N
275
8°53'05,06"E

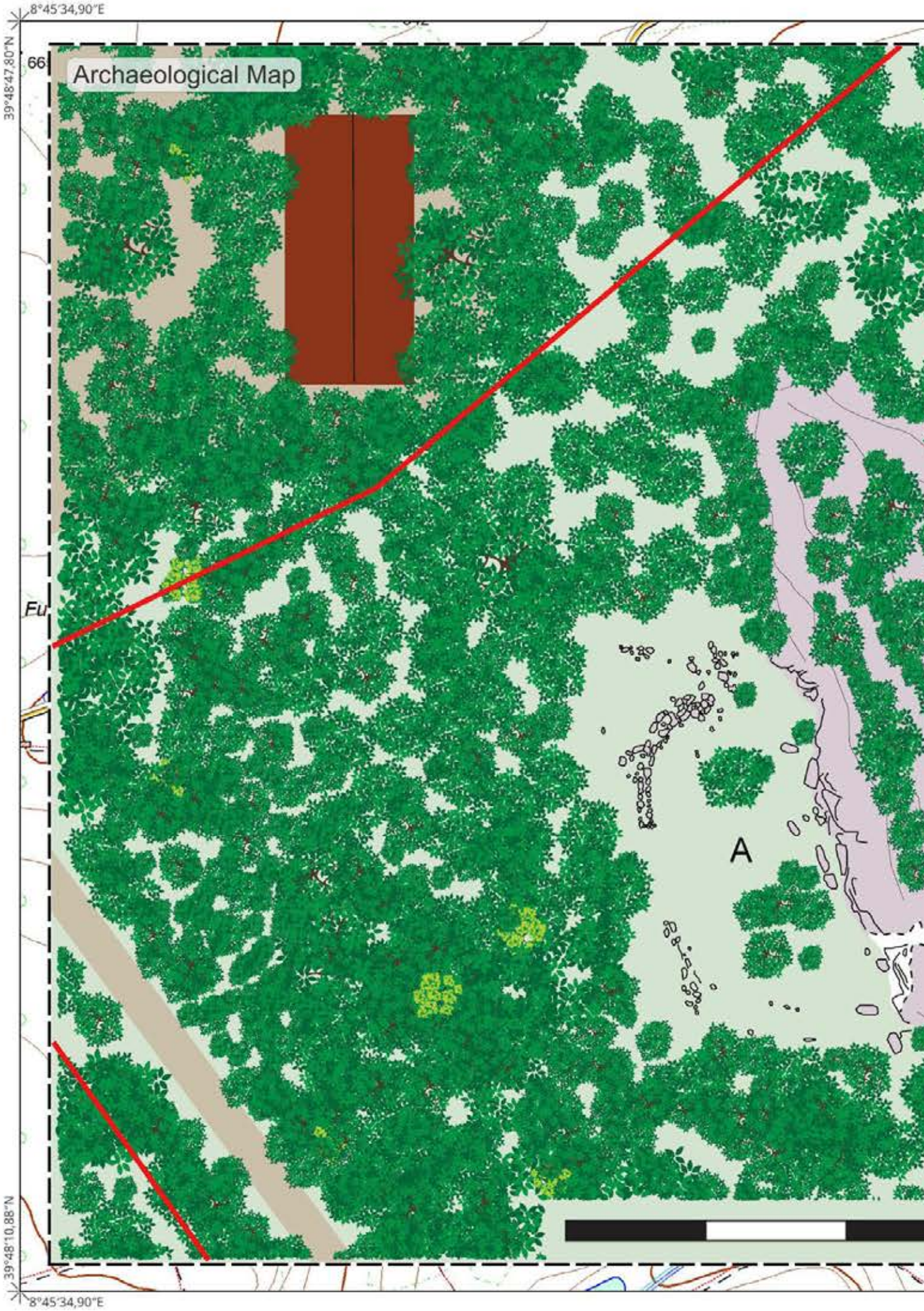

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 19 - a
Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
023. Menhir of Cuccuru Tundu, Villa Sant'Antonio
LEGENDA
Nominated Property
Proposed Buffer Zone
Detail of Archaeological Map
Monuments
0
80
160
240 m
299
301
304
302
290
Strada
Vic.le
273
VILLA SANT'ANTONIO
IS FOR
50 m
8°54'13,10"E
39°52'15,31"N

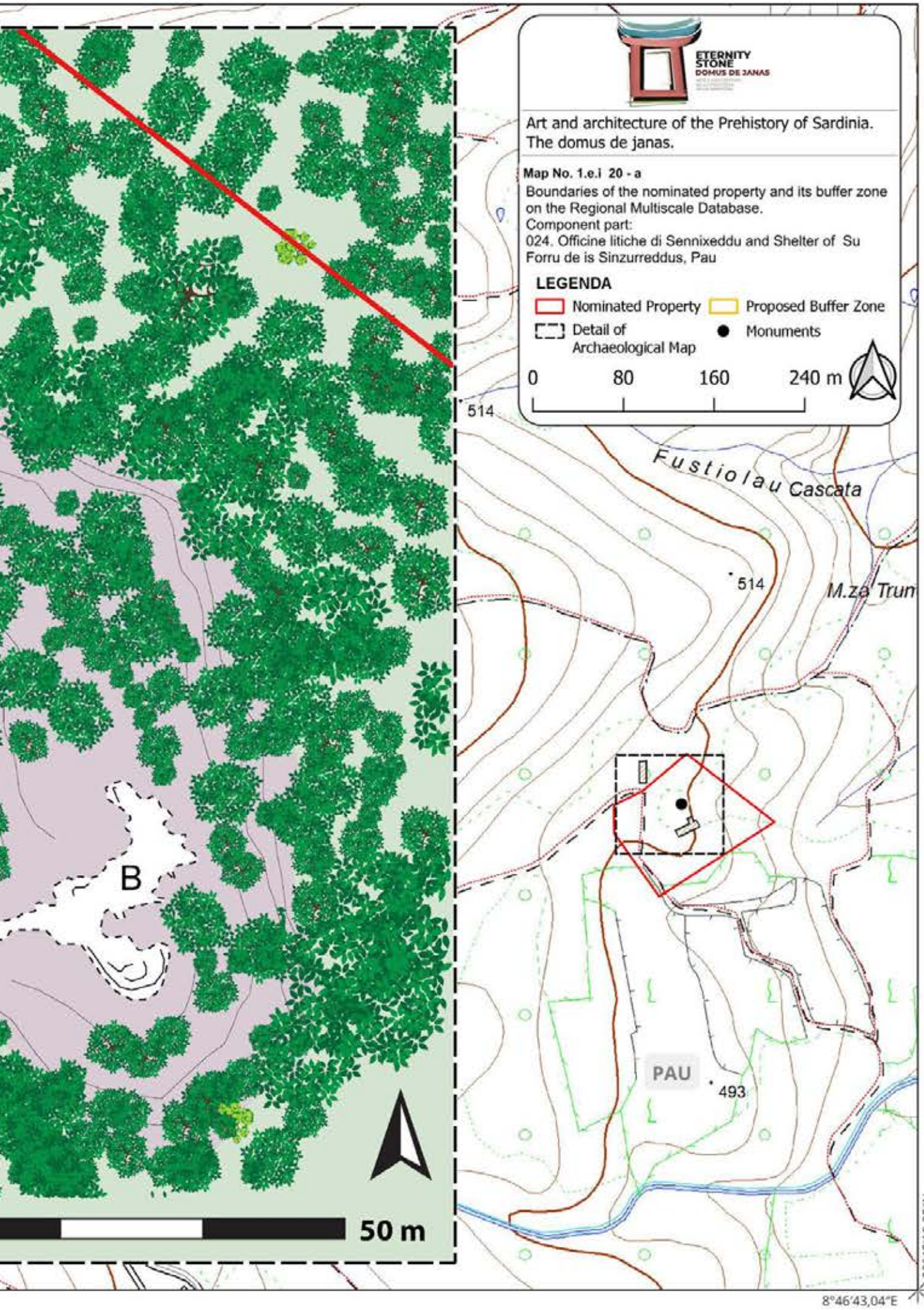

8°45'08,95"E
39°49'15,21"N
39°47'25,11"N
8°45'08,95"E
S'ARANGIU ARESTI
PRANU MAU
STRADA SENZA NOME DI_PAU_TISTOLAU
024
SU VARONGU
PRANU SA MESA
PAU
PERDAS URIAS
RIU MITZA NIU CRIDDU
CAMPU SERRAU
ALES
(Coordinate vertici EPSG 6707)

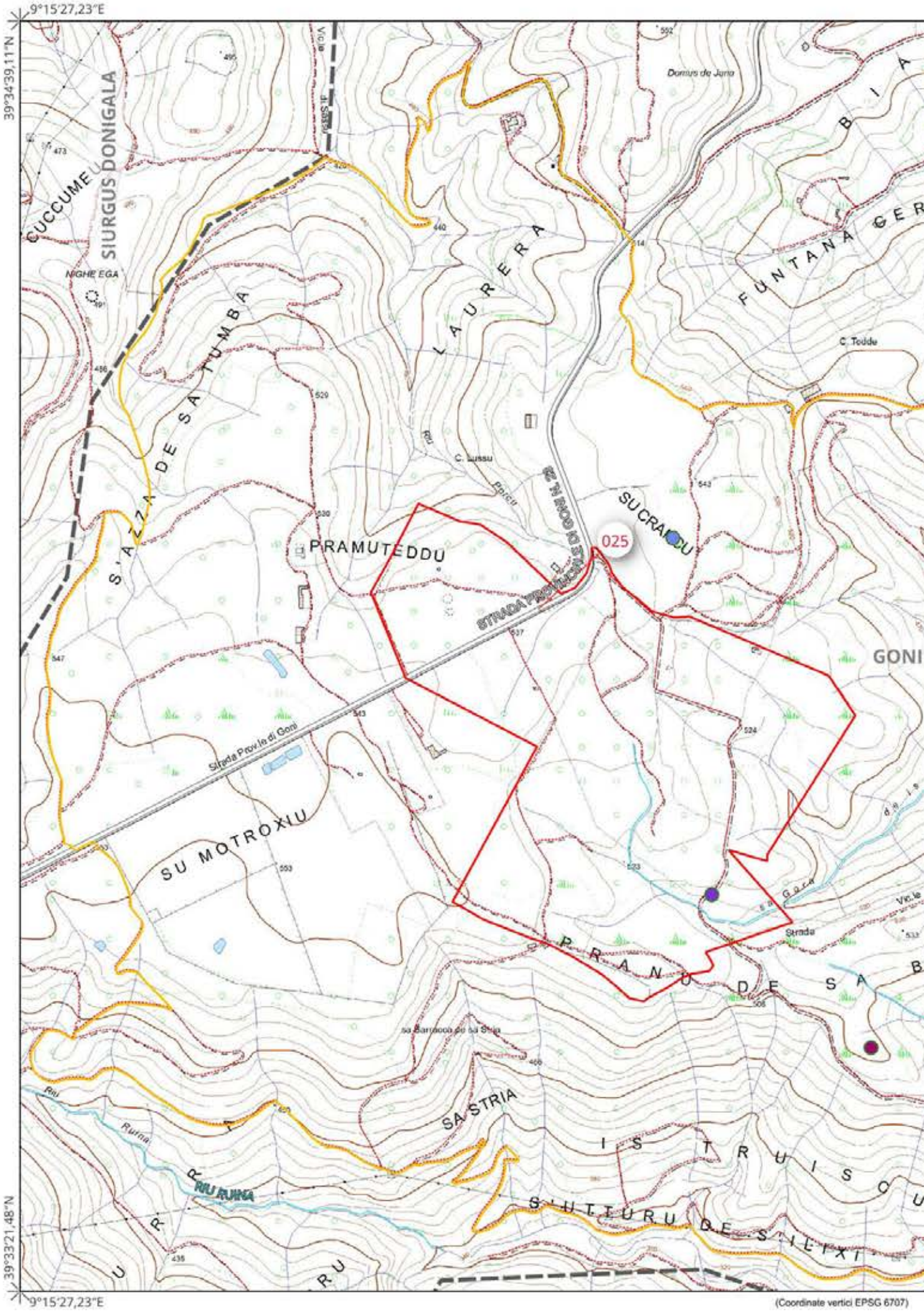

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 20 - 1
Boundaries of nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
024. Stone tool workshops of Sennixeddu e il riparo di Su Forru de is Sinzurreddus, Pau
LEGENDA
Nominated Property
Proposed Buffer Zone
Other Cultural Heritage
Monumento nuragico
0
200
400
600 m
CUCCURU ASPRU
CORONGIU ARRUBIU
STRADA COMUNALE ELINAS
STRADA VICINALE MARRUBIU
TRUNCHEDDU
RIU MANASSA
SU PINARI
CUMBIDA
CAZZIGHERA
GORA TREMINDAS
CANNISONE
PALA PORCEDDA
STRADA PROVINCIALE VILLA VERDE N. 49
RUINAS
PARDU
PAU
ARGIOLEDDAS
39°47'25,11"N
8°48'32,15"E

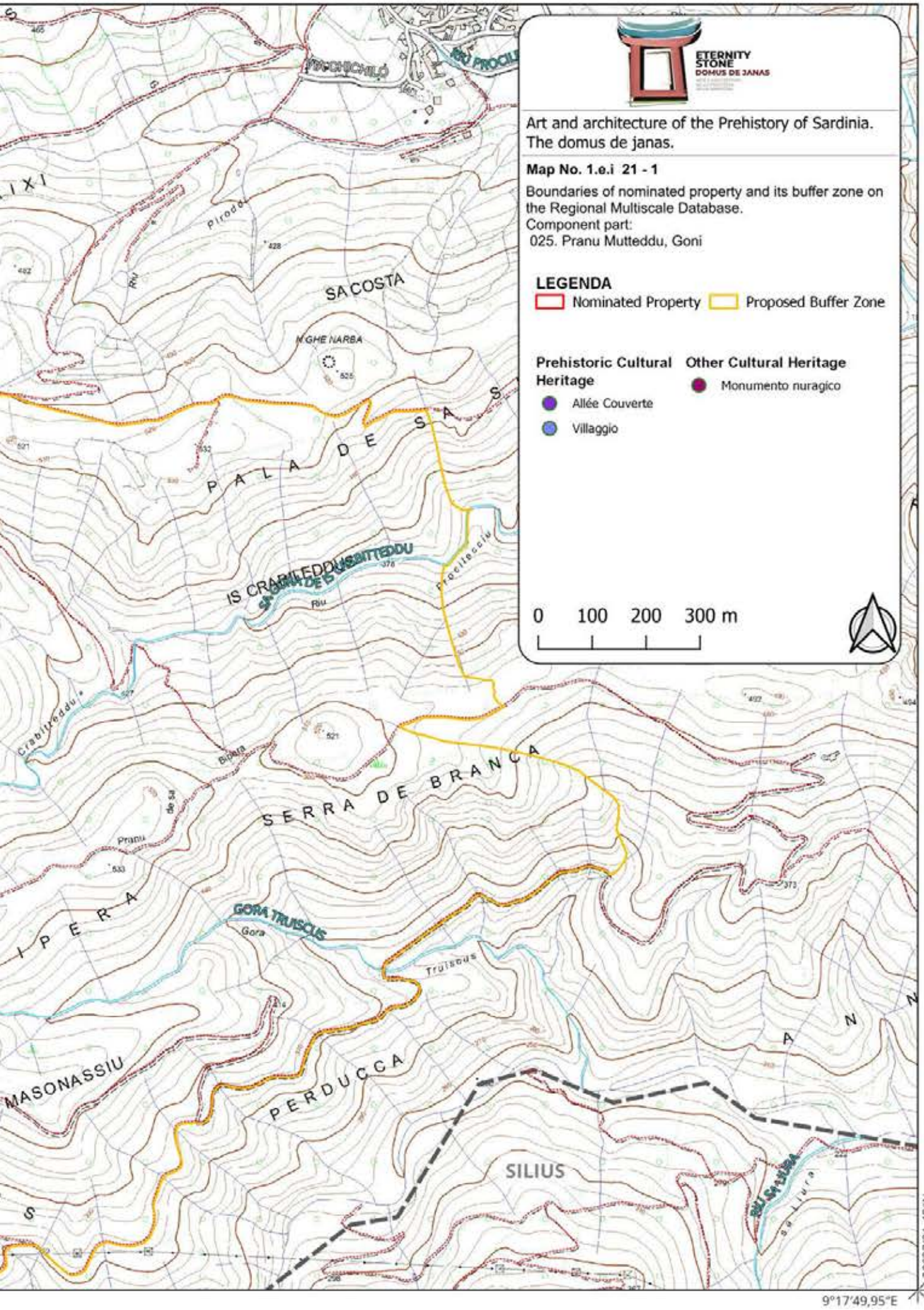

8°45'08,95"E
39°49'15,21"N
Ortofoto © AGEA
Tutti i diritti riservati
STRADA SENZA NOME
024
PAU
STRADA TRESSUSSA ISTERNAS
Ortofoto © AGEA
Tutti i diritti riservati
STRADA VICINALE SERRA BIDUS
ALES
39°47'25,11"N
8°45'08,95"E
(Coordinate vertici EPS

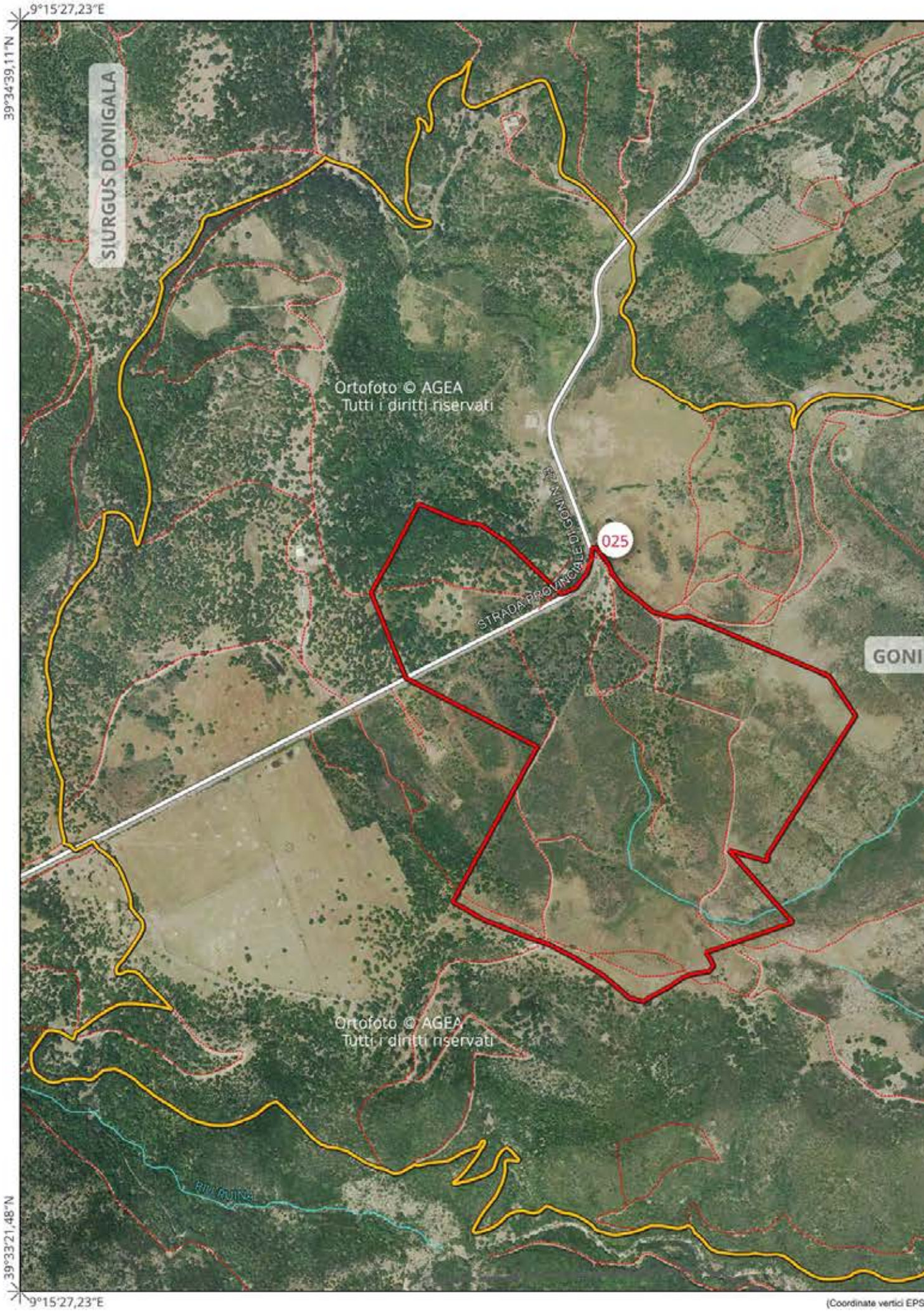
ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 20 - 2
Boundaries of nominated property and its buffer zone on Ortofoto AGEA (ris. 20cm.).
Component part:
024. Stone tool workshops of Sennixeddu e il riparo di Su Forru de is Sinzurreddus, Pau
LEGENDA
Nominated Property
Proposed Buffer Zone
0
200
400
600 m
Ortofoto © AGEA
Tutti i diritti riservati
STRADA VICINALE MARRUBIU
STRADA COMUNALE BISARCIO
RIU SA MANNA
STRADA VICINALE MESU MONTE
STRADA VICINALE VILLA VERDE
STRADA TRESSUSSA
VIA SELMUS
39°47'25,11"N
8°48'32,15"E

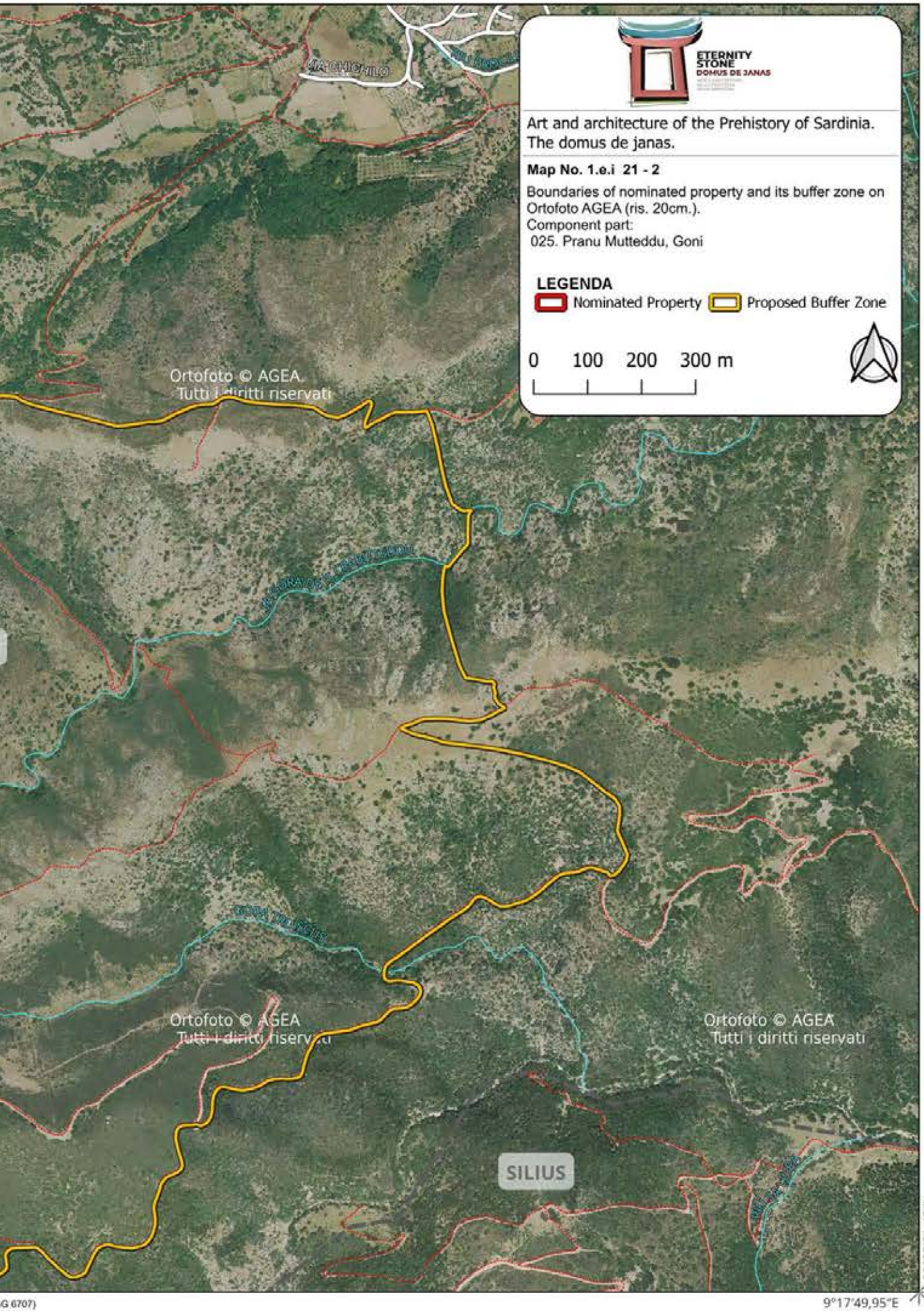

8°45'34,90"E
39°48'47,80"N
66
Archaeological Map
Fu
A
39°48'10,88"N
8°45'34,90"E

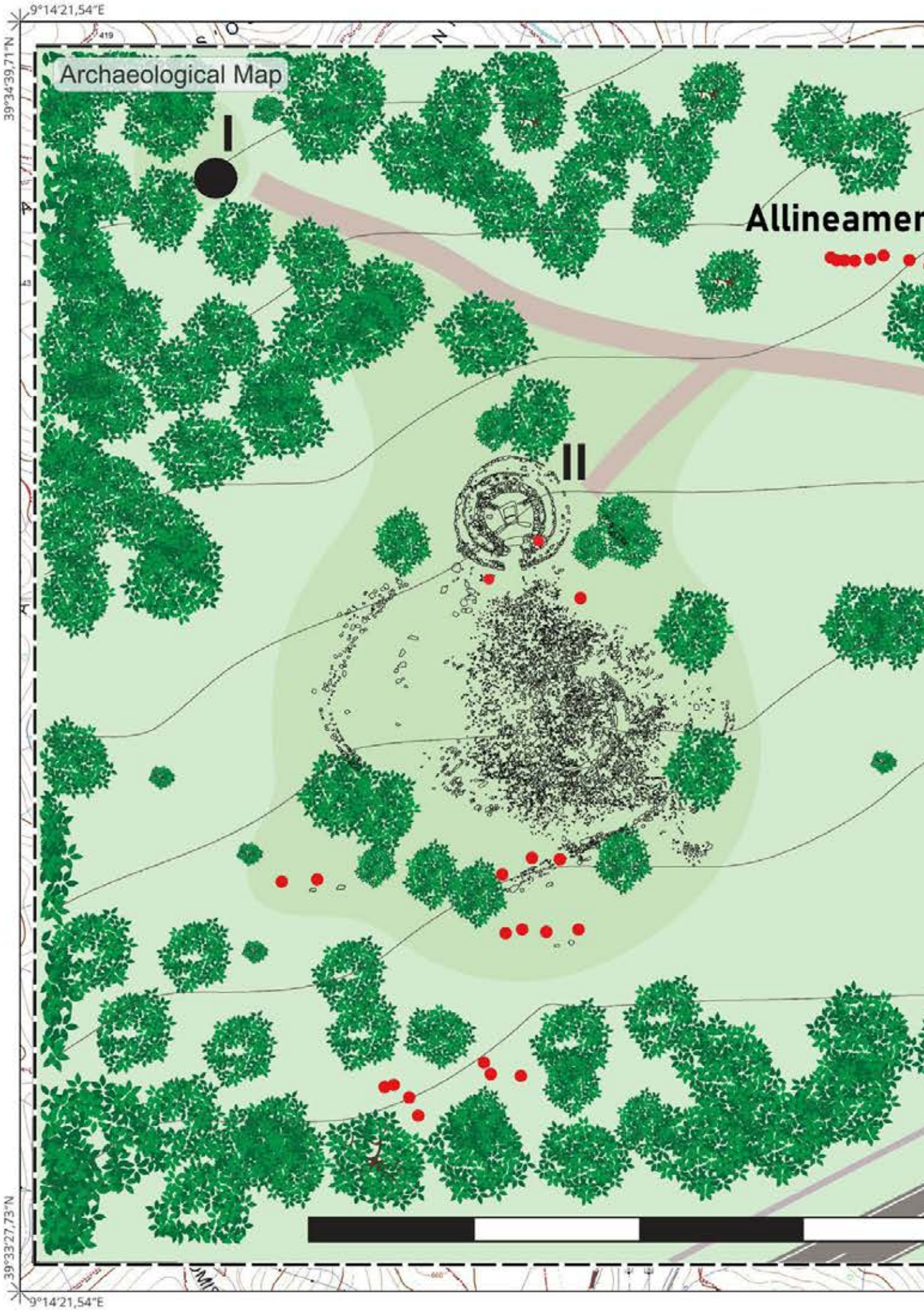

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 20 - a
Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
024. Officine litiche di Sennixeddu and Shelter of Su Forru de is Sinzurreddus, Pau
LEGENDA
Nominated Property
Proposed Buffer Zone
Detail of Archaeological Map
Monuments
0
80
160
240 m
514
Fustiolau Cascata
514
M.za Trun
B
PAU
493
50 m
39°48'10,88"N
8°46'43,04"E

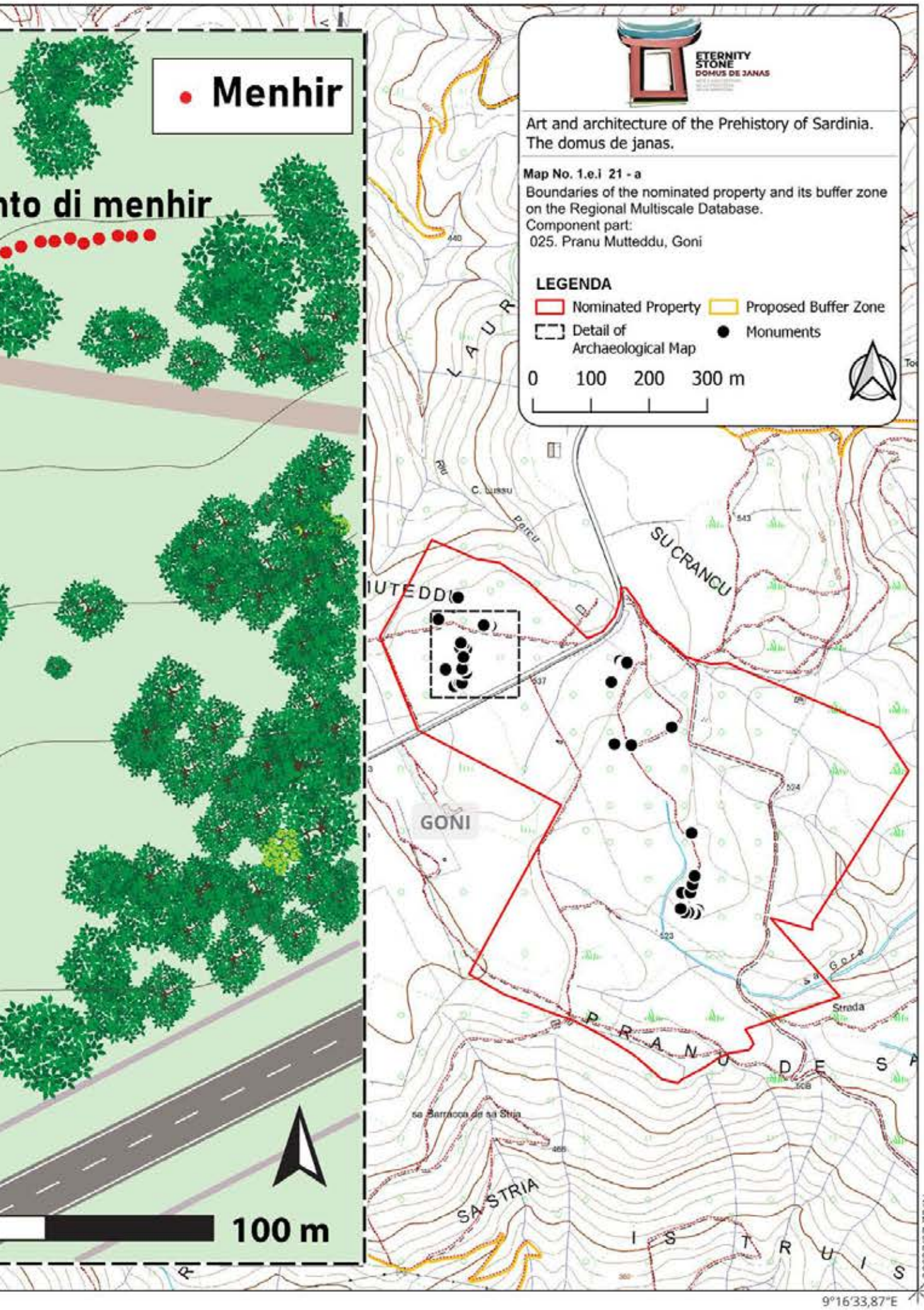

9°15'27,23"E
39°34'39,11"N
39°33'21,48"N
9°15'27,23"E
(Coordinate vertici EPSG 6707)
CUCCUME
SIURGUS DONIGALA
NGHE EGA
S'AZZA DE SA TUMBA
LAURERA
Domus de Janas
FUNTANA
C. Todde
C. Lussu
SU CRAOU
025
PRAMUTEDDU
STRADA PROVINCIALE
GONI
Strada Provle di Goni
SU MOTROXIU
PRANU DE SA
Strada
sa Barracca de sa Stria
SA STRIA
ISTRUISOU
RIU RUINA
Rui
Ruina
S'UTTURU DE S'ILEXI

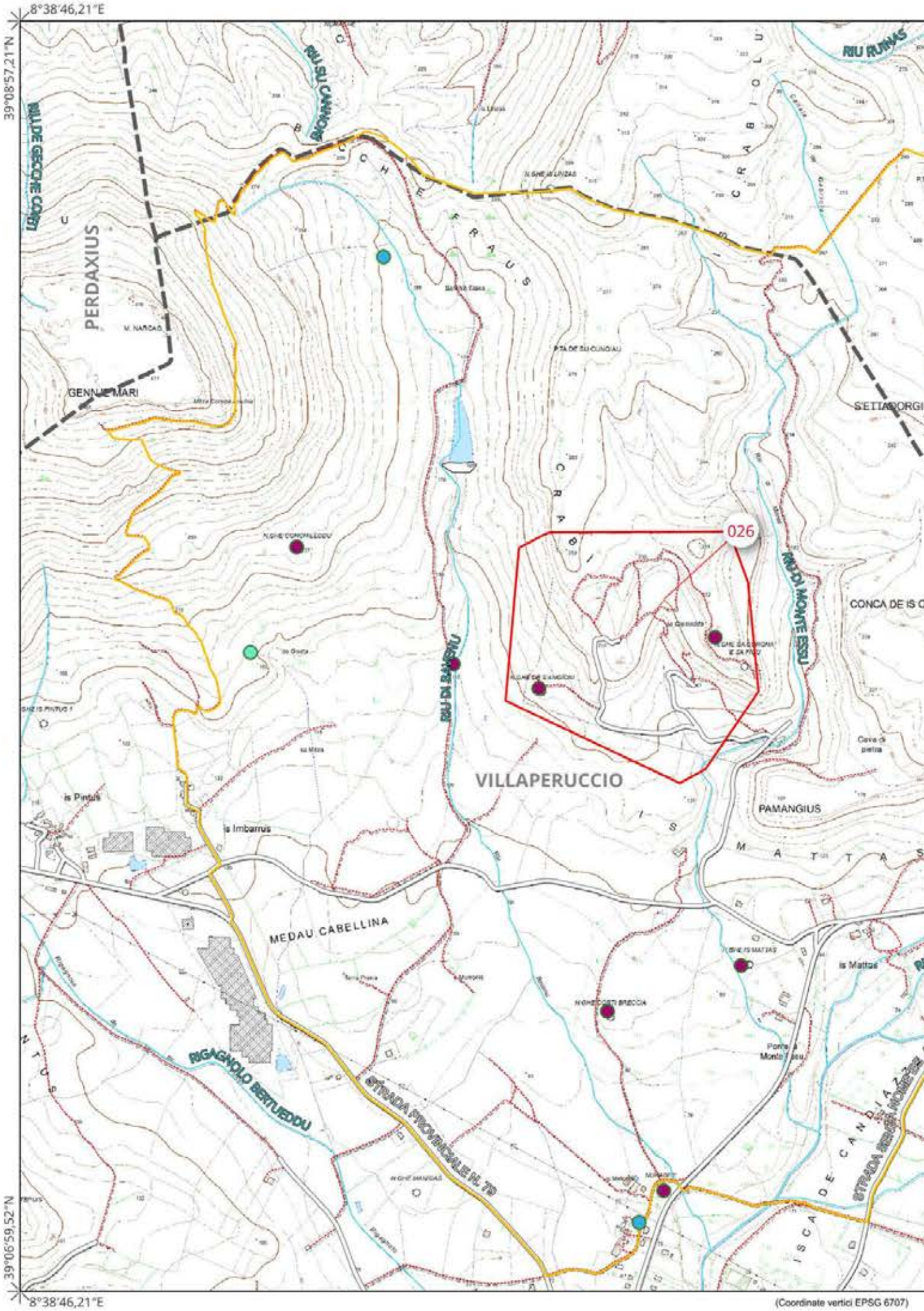

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 21 - 1
Boundaries of nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
025. Pranu Mutteddu, Goni
LEGENDA
Nominated Property
Proposed Buffer Zone
Prehistoric Cultural Heritage
Allée Couverte
Villaggio
Other Cultural Heritage
Monumento nuragico
0 100 200 300 m
SA COSTA
PALA DE SA S
SERRA DE BRANCA
IPERA
PERDUCCA
MASONASSIU
SILIUS
GORA TRUSCUS
IS CRABILEDDUS
39°33'21,48"N
9°17'49,95"E

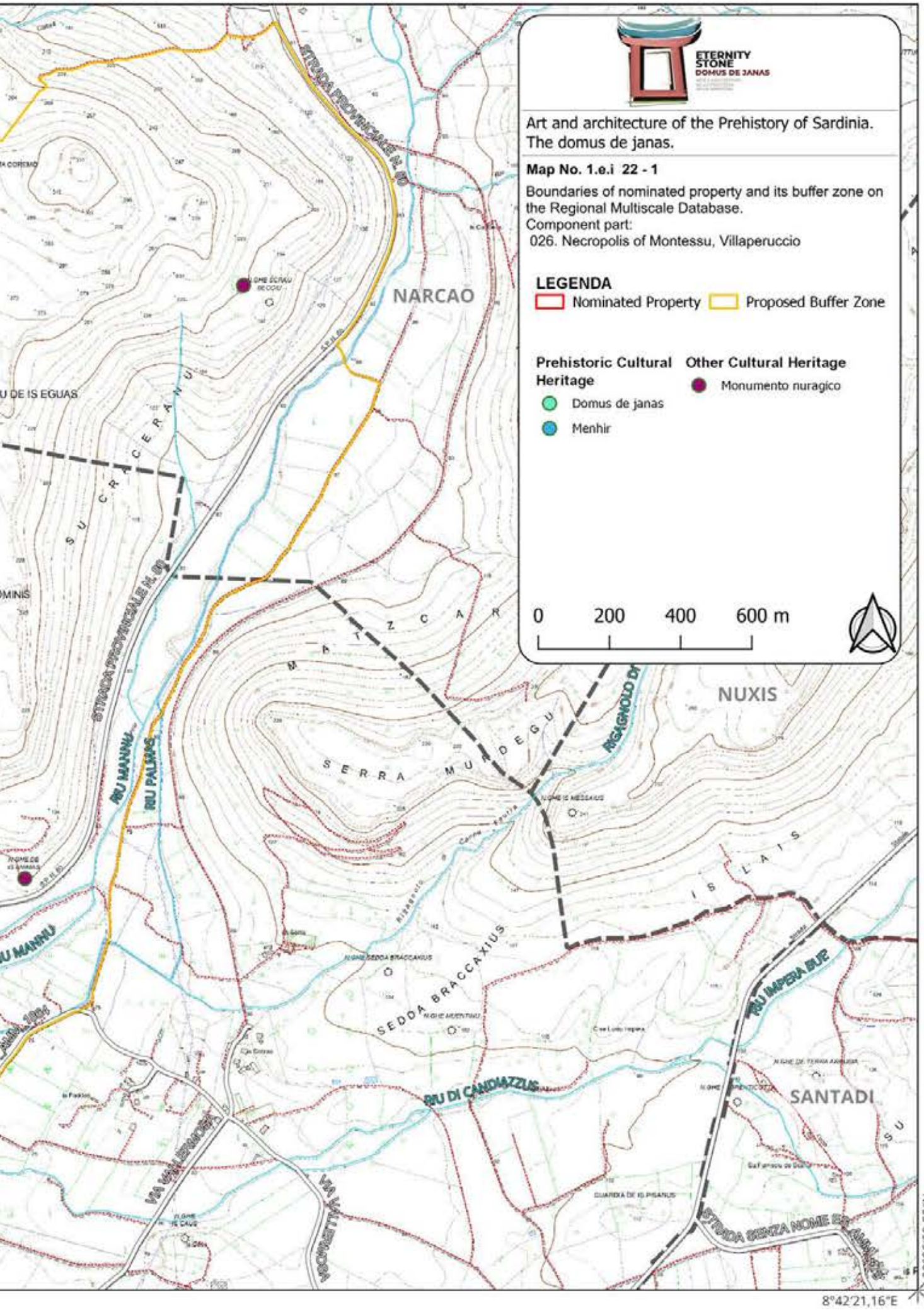

9°15'27,23"E
39°34'39,11"N
SIURGUS DONIGALA
Ortofoto © AGEA
Tutti i diritti riservati
025
STRADA PROVINCIALE OLIENA N. 129
GONI
Ortofoto © AGEA
Tutti i diritti riservati
RIU FUTINA
39°33'21,48"N
9°15'27,23"E
(Coordinate vertici EPS

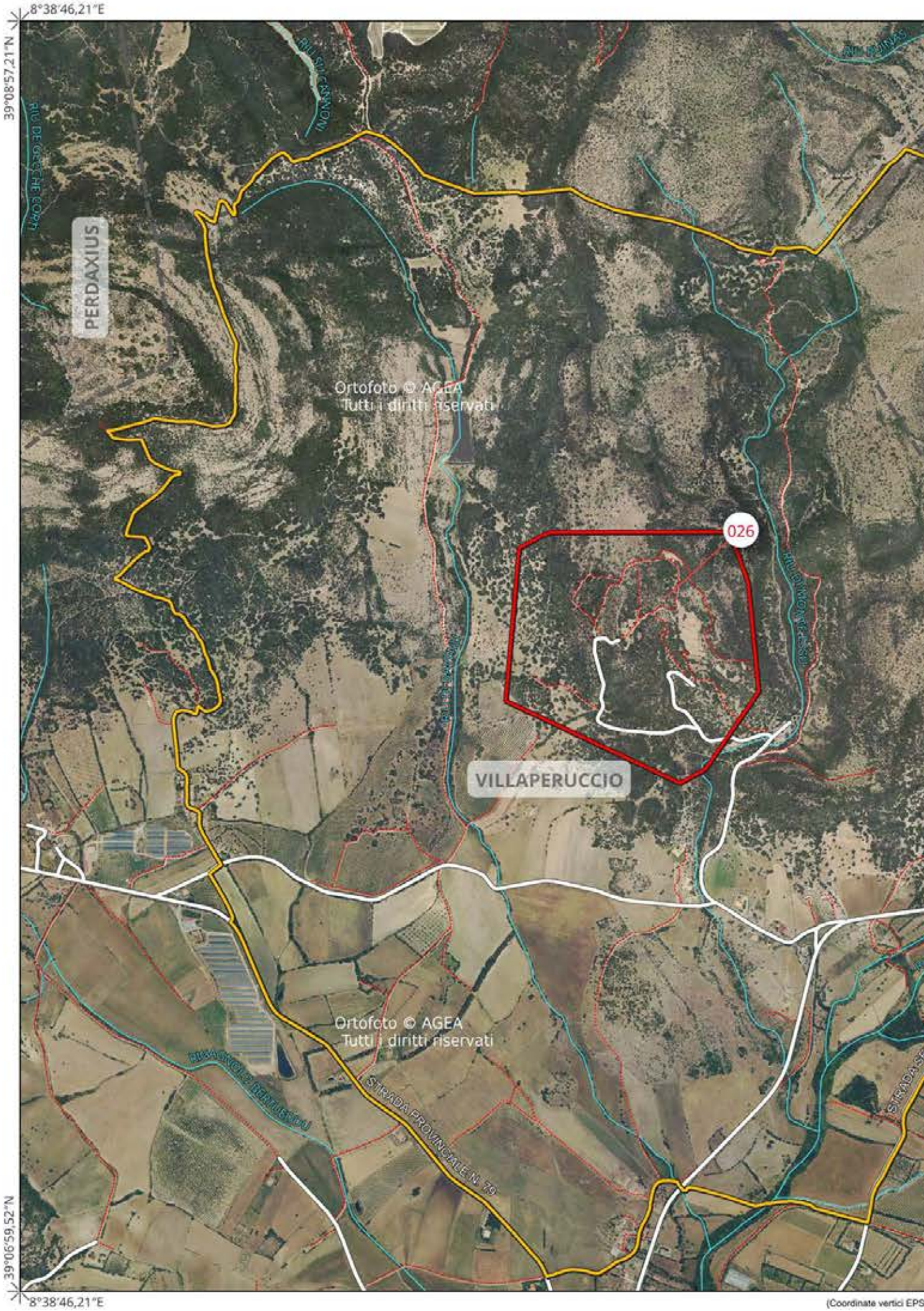

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 21 - 2
Boundaries of nominated property and its buffer zone on Ortofoto AGEA (ris. 20cm.).
Component part:
025. Pranu Mutteddu, Goni
LEGENDA
Nominated Property
Proposed Buffer Zone
0 100 200 300 m
Ortofoto © AGEA
Tutti i diritti riservati
Ortofoto © AGEA
Tutti i diritti riservati
Ortofoto © AGEA
Tutti i diritti riservati
SILIUS
39°33'21,48"N
9°17'49,95"E

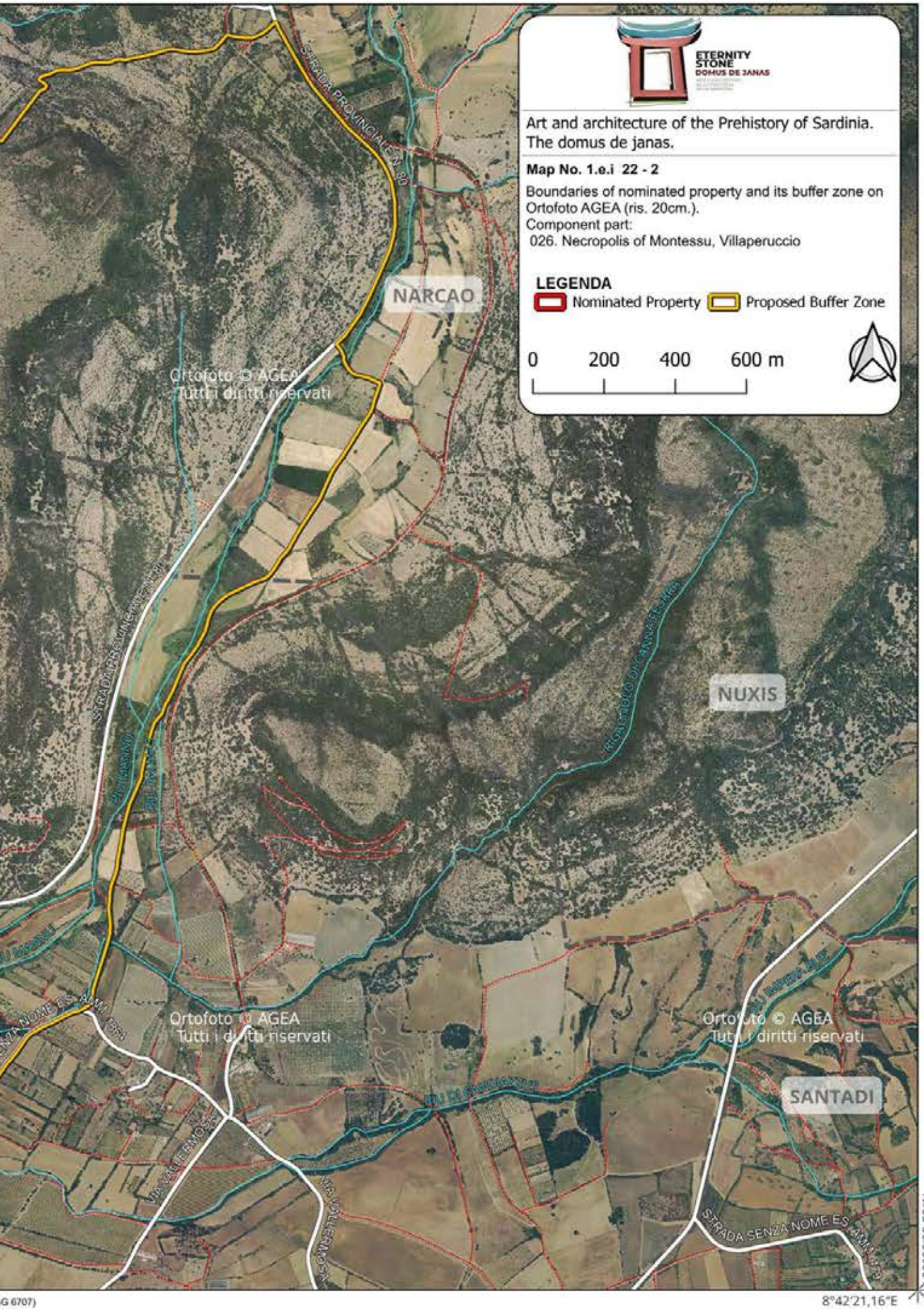

9°14'21,54"E
39°34'39,71"N
Archaeological Map
I
II
Allineamer
39°33'27,73"N
9°14'21,54"E


Menhir
nto di menhir
100 m
ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 21 - a
Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
025. Pranu Mutteddu, Goni
LEGENDA
Nominated Property
Proposed Buffer Zone
Detail of Archaeological Map
Monuments
0 100 200 300 m
LAURA
C. Lussu
Piccu
SU CRANCU
IUTEDDU
GONI
PRANU DE SP
Strada
sa Barracca de sa Stria
SA STRIA
ISTRUIS
39°33'27,73"N
9°16'33,87"E

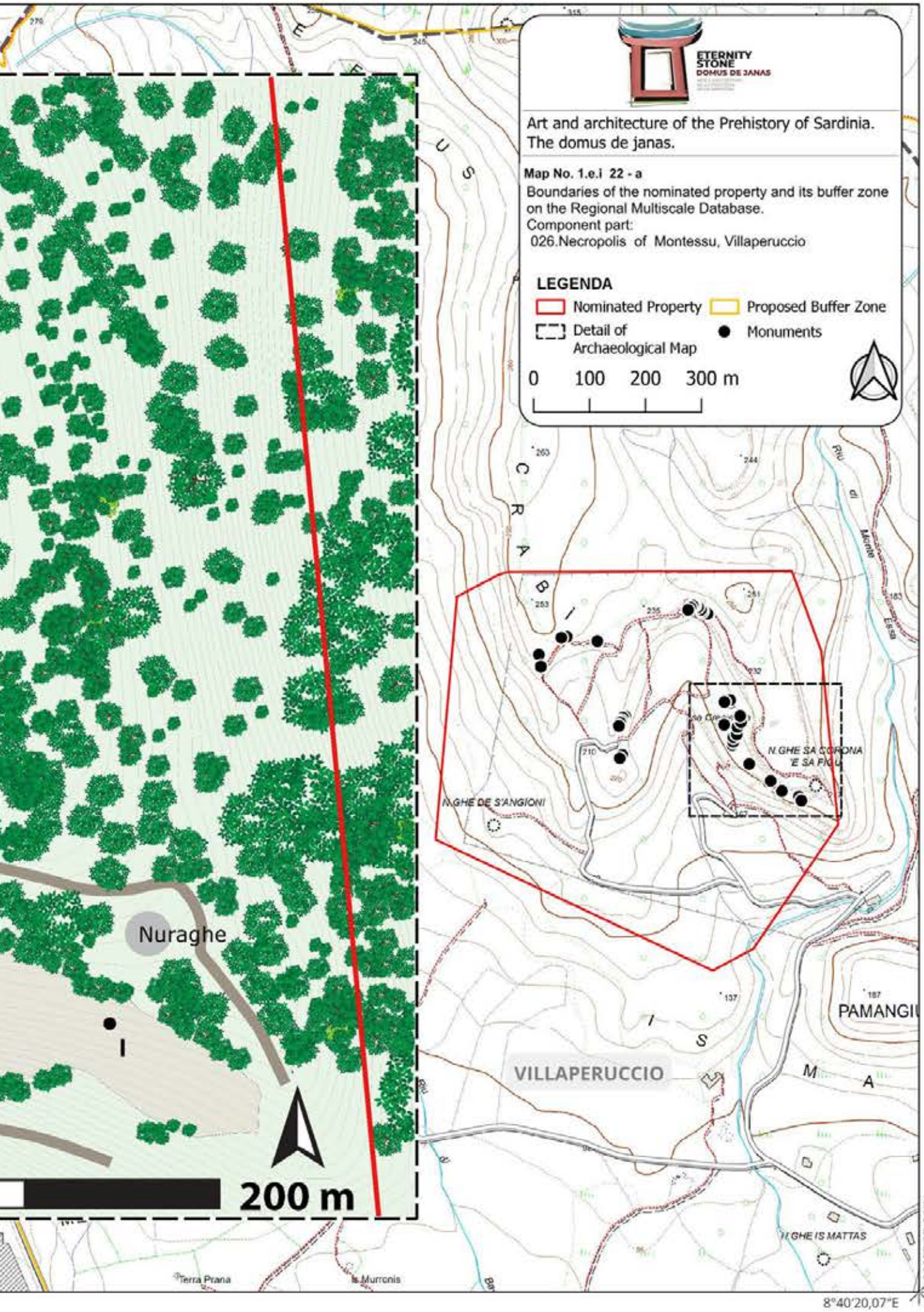

8°38'46,21"E
39°08'57,21"N
39°06'59,52"N
8°38'46,21"E
(Coordinate vertici EPSG 6707)
026
PERDAXIUS
GENNE MARI
RIU SU CANNONE
RIU DE GESCHE CORDI
RIU RUNAS
RIU DE MONTE ESSU
RIU DI BANGHU
VILLAPERUCCIO
PAMANGIUS
MEDAU CABELLINA
RIGAGNOLO BERTUEDDU
STRADA PROVINCIALE N. 79
STRADA SENIS MONREALE
is Pintus
is Imbarrus
is Mattas
CONCA DE IS C

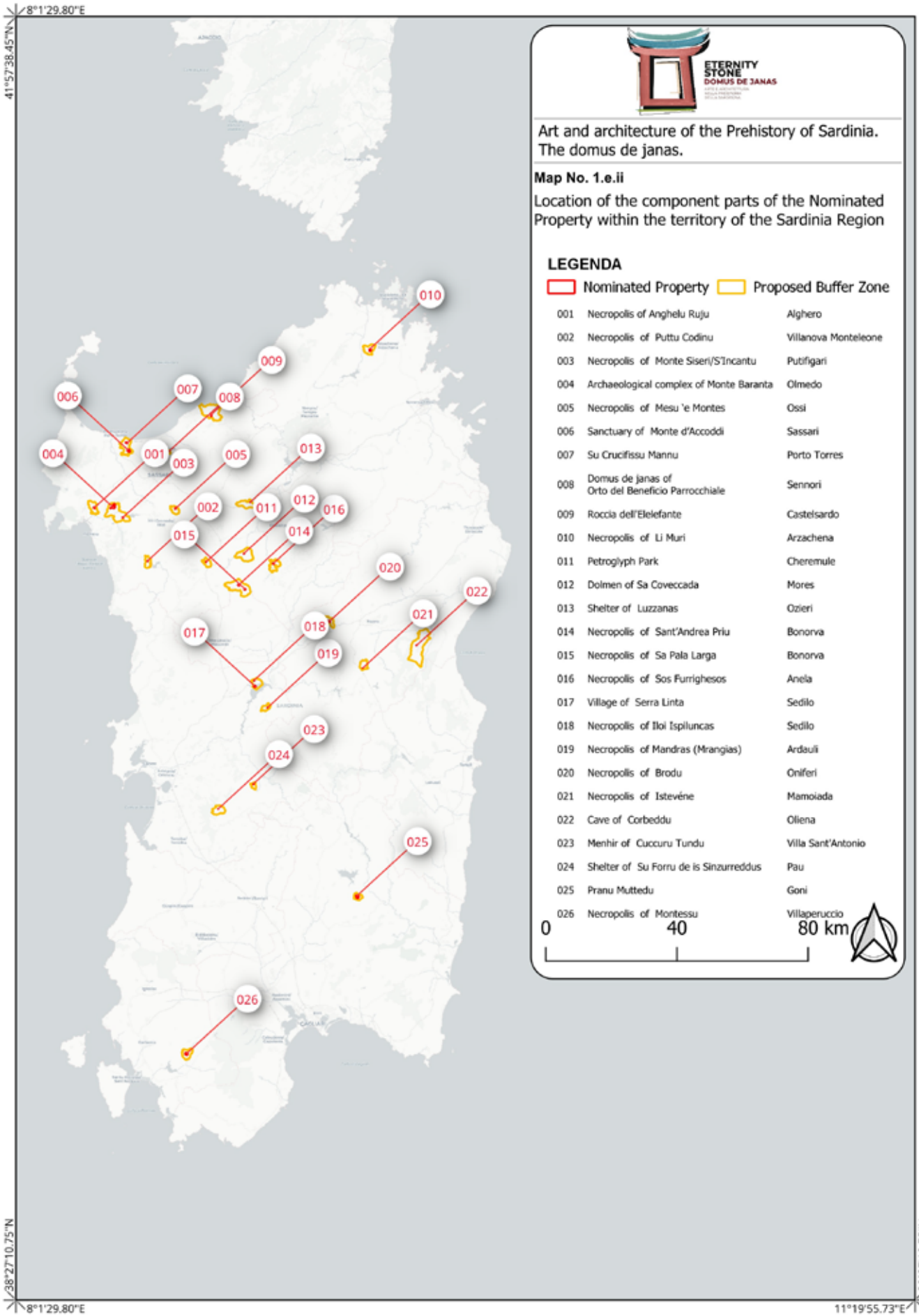

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 22 - 1
Boundaries of nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
026. Necropolis of Montessu, Villaperuccio
LEGENDA
Nominated Property
Proposed Buffer Zone
Prehistoric Cultural Heritage
Domus de janas
Menhir
Other Cultural Heritage
Monumento nuragico
0
200
400
600 m
NARCAO
NUXIS
SANTADI
SERRA MURDEGU
SEDDA BRACCAXIUS
RIU MANNU
RIU PALMAS
RIU DI CANDIAZZUS
RIU IMPERIA BUE
STRADA PROVINCIALE N. 69
39°06'59,52"N
8°42'21,16"E


8°38'46,21"E
39°08'57,21"N
39°06'59,52"N
8°38'46,21"E
PERDAXIUS
VILLAPERUCCIO
026
Ortofoto © AGEA
Tutti i diritti riservati
Ortofoto © AGEA
Tutti i diritti riservati
STRADA PROVINCIALE N. 79


ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 22 - 2
Boundaries of nominated property and its buffer zone on Ortofoto AGEA (ris. 20cm.).
Component part:
026. Necropolis of Montessu, Villaperuccio
LEGENDA
Nominated Property
Proposed Buffer Zone
0 200 400 600 m
NARCAO
NUXIS
SANTADI
STRADA PROVINCIALE N. 80
Ortofoto © AGEA
Tutti i diritti riservati
Ortofoto © AGEA
Tutti i diritti riservati
Ortofoto © AGEA
Tutti i diritti riservati
VIA VALLERMOSA
VIA VALLERMOSA
STRADA SENZA NOME ES AMM.VA
39°06'59,52"N
8°42'21,16"E

8°38'03,16"E
39°08'42,60"N
39°07'27,64"N
8°38'03,16"E
PERDAXIUS
Archaeological Map
XIII
XII
XI
X
IX
VIII
VII
VI
V
IV
III
II


ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.i 22 - a
Boundaries of the nominated property and its buffer zone on the Regional Multiscale Database.
Component part:
026.Necropolis of Montessu, Villaperuccio
LEGENDA
Nominated Property
Proposed Buffer Zone
Detail of Archaeological Map
Monuments
0 100 200 300 m
Nuraghe
200 m
N.GHE DE S'ANGIONI
N.GHE SA CORONA 'E SA FIGU
VILLAPERUCCIO
PAMANGI
N.GHE IS MATTAS
Terra Prana
S.Murronis
39°07'27,64"N
8°40'20,07"E


8°1'29.80"E
41°57'38.45"N
38°27'10.75"N
8°1'29.80"E
11°19'55.73"E
38°27'10.75"N
ETERNITY STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 1.e.ii
Location of the component parts of the Nominated Property within the territory of the Sardinia Region
LEGENDA
Nominated Property
Proposed Buffer Zone
001 Necropolis of Anghelu Ruju Alghero
002 Necropolis of Puttu Codinu Villanova Monteleone
003 Necropolis of Monte Siseri/S'Incantu Putifigari
004 Archaeological complex of Monte Baranta Olmedo
005 Necropolis of Mesu 'e Montes Ossi
006 Sanctuary of Monte d'Accoddi Sassari
007 Su Crucifissu Mannu Porto Torres
008 Domus de janas of Orto del Beneficio Parrocchiale Sennori
009 Roccia dell'Elelefante Castelsardo
010 Necropolis of Li Muri Arzachena
011 Petroglyph Park Cheremule
012 Dolmen of Sa Coveccada Mores
013 Shelter of Luzzanas Ozieri
014 Necropolis of Sant'Andrea Priu Bonorva
015 Necropolis of Sa Pala Larga Bonorva
016 Necropolis of Sos Furrighesos Anela
017 Village of Serra Linta Sedilo
018 Necropolis of Iloi Ispiluncas Sedilo
019 Necropolis of Mandras (Mrangias) Ardauli
020 Necropolis of Brodu Oniferi
021 Necropolis of Istevéne Mamoiada
022 Cave of Corbeddu Oliena
023 Menhir of Cuccuru Tundu Villa Sant'Antonio
024 Shelter of Su Forru de is Sinzurreddus Pau
025 Pranu Muttedu Goni
026 Necropolis of Montessu Villaperuccio
0
40
80 km

1.f - Area of nominated property and proposed buffer zone

Area of nominated property:	Buffer Zone:	Total:
320.86 ha	22,297.11 ha	22,617.97 ha

a

b

DOMUS DE JANAS
ARTE E ARCHITETTURA NELLA PREISTORIA DELLA SARDEGNA.

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2

ART AND ARCHITECTURE IN THE PREHISTORY OF SARDINIA

The domus de janas

DESCRIPTION

Description

2.a - Description of nominated property

The "Arte e Architettura nella Preistoria della Sardegna. Le *domus de janas*" (Art and Architecture in the Prehistory of the domus de janas) serial site includes a series of archaeological findings dating from the Middle Neolithic to the Copper Age, up to the dawn of the Bronze Age (between the 5th and the end of the 3rd millennium BCE).
It is the final phase of recent Prehistory, when the Island was permanently populated by sedentary communities, which carried out the breeding and farming of domesticated species, and other activities necessary for subsistence, of which a partial trace remains in archaeological *records*: ceramic vases, smelters and loom weights for the production of yarns and fabrics, stone artifacts (chipped or polished) and animal hard materials.
The scientific papers published during the last forty years have reconstructed the cultural system that was established in Sardinia during that period of time. The system remained rather consistent over time, despite being divided into multiple components (cultures/*facies*), mostly based on the different types of shapes and styles characterizing their earthenware. Each culture was named after the place of discovery of its characteristic pieces of ceramics: Mobile findings are displayed by local museums, properly protected and promoted: the National Museums of Sassari, Cagliari and Nuoro and the city museums of Alghero, Cabras, Ozieri, Santadi, and Sedilo are worth mentioning in this regard.
The Bell Beaker culture, being documented by finds found main-

Middle Neolithic	5th millennium BCE	Pre-Nuragic Civilization	Bonu Ighinu culture (4900-4400 BCE) San Ciriaco culture (4400-4000 BCE)
Late Neolithic	4th millennium BCE		Ozieri culture I (4000-3500 BCE) Ozieri culture II (3500-3500 BCE)
Copper Age	3rd millennium BCE		Filigosa culture (3100-2500 BCE) Abealzu culture (2700-2400 BCE) Monte Claro culture (2800-2300 BCE) Bell Beaker Culture (2600-2200 BCE)
Early Bronze Age	End of the 3rd millennium - beginning of the 2nd millennium BCE		Bonnanaro culture (2300-2000 BCE)

fig. 2.1 - Chronological overview of Sardinia Prehistory

Prehistory of Sardinia

Bell Beaker Culture

Time line (BCE)	SARDINIA	CORSICA	SOUTHERN FRANCE	SICILY	AEOLIAN ISLANDS	SOUTHERN ITALY	CENTRAL ADRIATIC ITALY	CENTRAL TYRRHENIAN ITALY
5000								
4900	Middle Neolithic I (5000-4500 BCE)	*Curacchiaghju or Curasien* facies	Linear ceramic Rossen culture	Middle Neolithic Stentinello/ Three-color ceramic *facies*/ Serra D'Alto 5000-4500 BCE	Middle Neolithic Stentinello/ Three-color ceramic *facies*/ Serra D'Alto 5000-4500 BCE	*Serra d'Alto I* facies	*Cantignano facies* (5300-4900 BCE)	Engraved line ceramics (5300-4700)
4800						*Serra d'Alto II facies* (up to 4100 BCE)	*Ripoli I facies* (from 4900 BCE)	Regional clusters: Sarteano cluster Sasso cluster
4700	Bonuighinu culture							
4600								
4500								
4400	Middle Neolithic II (4500-4000 BCE)	*Presa o Présien* facies	Chassey culture	Late Neolithic Diana 4500–4000 BCE	Late Neolithic Diana/ Spatarella 4500–3800 BCE	*Facies* of Diana Diana-Bellavista style (4300-4000 BCE)	Late Ripoli culture (4500-4000 BCE)	*Facies* of Chassey, Late Ripoli, Diana
4300		Monte Revincu (San Pietro di Tenda) Vasculaghju (Sotta)						
4200	San Ciriaco culture							
4100								
4000								
3900								
3800	Late Neolithic I (4000-3500 BCE) Ozieri culture I	Basien faciès	Chassey culture Carnac lineup Seine-Oise-Marne culture	San Cono/Piano Notaro/Piano Vento Early Copper Age, Piano Conte 4000-3000 BCE		*Facies* of Spatarella, Zinzulusa and Macchia a Mare	*Marche Facies* of Camerano-Fontenoce (hard to date) Regional cluster of Bolognano (hard to date)	*Facies* of Chassey-Lagozza
3700					Piano Conte Copper Age 3800–3000 BCE	Grooved ceramics (3800/3700-3300 BCE) *Taurasi* facies (3900- 3000 BCE) *Gaudo* facies (3700 – 2500/2400 BCE) *Laterza* facies (2900/2800-2600/2500 BCE) *Torrespaccata-Gricignano* facies (2900-2300 BCE) *Cetina I* facies (2600-2250 BCE)	Rinaldone facies 3500 – 2800 BCE	*Rinaldone* facies (3700 – 2800 BCE) Regional clusters: Ponte San Pietro cluster (ca. 3100-2900 Chal. BCE) Rome-Colle Albani cluster San Giuseppe cluster Fontino cluster Vecchiano cluster Sarteano cluster
3600								
3500							Rinaldone facies 3800 – 2800 BCE Laterza (2900/2800-2600/2500)	
3400	Late Neolithic II (3500-3000 BCE) Ozieri II/Sub Ozieri culture	*Terrinien 1* facies I Calanchi (Sollacaro) Monte Lazzu, Tiuccia (Casaglione)						
3300								
3200								
3100								
3000								
2900	Chalcolithic (3000-2100 BCE) Filigosa culture Abealzu culture Monte Claro culture Bell Beaker culture	*Facies* of Terrinien 2 *Facies* of Terrinien 3	Artenac culture	Late Copper Age Serraferlicchio/ Conca D'Oro/ Malpasso/Bell Beaker, Piano Quartara 3000-2200 BCE	Copper Age Piano Quartara (3000-2200 BCE)		Ortucchio culture (2600/2500 – 2100 BCE) Cetina I (2600-2250 BCE)	
2800								Laterza facies (2900-2500 BCE) Ortucchio culture (2600–2100 BCE) Bell Beaker 2500-2000 BCE
2700		*Terrinien 4* facies	Fontbuisse culture					
2600								
2500								
2400		Facies of Terrinien 4/ Bell Beaker culture Early Bronze 1	Final Bell Beaker					
2300								
2200								
2100				Early Bronze Age Naro/ La Muculufa/ Castelluccio/ Bell Beaker 2200–1500 BCE	Early Bronze Age Capo Graziano I–II (2200-1500 BCE)	*Facies* of Cetina II (2250-1800 BCE)	Cetina II (2250-1800 BCE)	
2000								
1900								
1800	Early Bronze I (2100-1800 BCE) Bonnannaro culture A							

fig. 2.2 - Euro-Mediterranean synoptic table of prehistoric cultures

MALTA	SPAIN	BALEARIC ISLANDS	AEGEAN SEA	BALKANS WESTERN AREA	BALKANS EASTERN AREA	CYPRUS	ANATOLIA	Time line (BCE)
					5300-4800 BCE Late Neolithic			5000
								4900
								4800
								4700
Ghar Dalam 5100/5000–4300 BCE Grey Skorba 4500–4400 BCE Red Skorba 4400–4100 BCE	Epicardial (4800-3900 BCE) and post-Cardial (3900-2800 BCE) Neolithic Age Middle Neolithic Age (4400-3900 BCE)	Early Neolithic settlements 5600–3900 BCE	Late Neolithic Age (5200-4200 BCE)		4800-4200 BCE Early and Middle Chalcolithic			4600
							Middle Chalcolithic 4500- 4300 BCE	4500
				4500-3800 BCE Late Neolithic: Hvar				4400
								4300
								4200
								4100
								4000
					4200-3700 BCE Final Chalcolithic			3900
							Late-Chalcolithic 1-2 4300-3900 BCE Late-Chalcolithic 3-4 3900-3350 BCE	3800
Zebbug 4100–3700 BCE Mgarr 3800–3600 BCE Ggantija 3600–3100 BCE Saflieni and Tarxien 3100–2400 BCE	Final Neolithic (3900-3000 BCE)	Pre-Talaiotic 3900–1300 BCE Talaiotic 1300–1000 BCE	Final Neolithic 4200-3200 BCE	3800-3000 BCE Chalcolithic: Nakovan	3700-3200 BCE proto-Bronze Age	Ceramic Neolithic (5000-3800/3700 BCE)		3700
								3600
								3500
								3400
						3800/3700 – 2500 BCE Chalcolithic I (Red lustrous ware and Red-on-White ware)	Late-Chalcolithic 5 3350-3000 BCE	3300
								3200
								3100
	Chalcolithic (3000-2500 BCE)		Early Bronze I (EB I) 3200–2700 BCE	3000-2300 BCE Chalcolithic: Vucedol. Ljubljana	3200-2000 BCE Early Bronze Age		Early Bronze Age 1 ("Urban revolution") 3000-2750 BCE	3000
								2900
								2800
			Early Bronze II (EB II) 2700–2200 BCE				Early Bronze 2 2750-2500 BCE	2700
								2600
	Bell Beaker (2500-2200 BCE)	Bell Beaker (Majorca) ca. 2500/2300–2000 BCE Settlements in Minorca ca. 2300?–2000 BCE Final Bell Beaker/ Dolmenic ca. 2000–1600 BCE				2500-2300 Chalcolithic II	Early Bronze Age 3 (beginning of the middle period) 2500-2000 BCE	2500
								2400
								2300
			Early Bronze II (EB II) 2200–2000 BCE					2200
								2100
			Middle Neolithic (2000–1650 BCE) Late Bronze Age: Mycenaean I-II (1650–1450 BCE) Mycenaean III A-B (palatial: 1450–1200 BCE)	2300-1800 BCE Early Bronze Age (Cetina)		Early Bronze 2300-1800 BCE (Early Cypriot, EC		2000
Settlement crisis on the islands 2400-2200 BCE: Thermi Ware Tarxien Cemetery 2200–1500 BCE	Early Bronze (El Argar culture) (2300/2200-1600/1500 BCE)							1900
								1800

ly in burials, is the only one that is also found outside Sardinia, throughout the Mediterranean basin and in continental Europe. However, the materials found on the island often have specific decorative features that distinguish them from those of other areas. The different cultural paintings are reconstructed, investigating them in the different functions (civil, worship and magical-religious, funerary) and integrating the archaeological material findings with the information offered by their "containers": caves, natural shelters, monuments and monumental complexes.

The selection is intended to provide evidence of both the universality and the peculiarity of Sardinian prehistoric art and architecture by selecting a series of specific elements. For this reason, the selection of material finds was performed based on the the criteria and requirements described in the *Operational Guidelines* for the Implementation of the 1972 World Heritage Convention, but also offer a general and comprehensive scientific perspective of the period under review, enabling the reconstruction of the daily life of Sardinian prehistoric communities, through the resolve to identify the archetypes of monuments having a specific function (civil, funerary, ritual and/or magical-religious) and/or a specific type of iconography.
The finds included in the serial site show how Sardinian prehistoric communities were part of the Euro-Mediterranean context and participated in two major cultural phenomena documented along the coasts of the Mediterranean and in continental Europe: Hypogeism and Megalithism. Both have been documented on the island during the period of time under review, almost simultaneously, the former occurring slightly earlier during the first half of the 5th millennium BCE. The monuments included in the application are testimony to how the populations residing on the island during the period under review reinterpreted such cultural phenomena each in its own way, bearing unique witness to their passing.

fig. 2.3 - Mother goddess of Santa Mariedda - Olbia

In that period, moreover, the type of prehistoric art developed, already *in nuce* during the Late Paleolithic Age, with the figurine of Macomer. Art manifested itself with testimonies of exceptional cultural value, which are numerous and diverse on various architectural types and in material culture. It is important to underline how the artistic trend was stopped at the beginning of the Bronze Age, with the Nuragic civilization, a sign of a significant cultural change.
Artistic elements reappeared in the Iron Age, with different forms and techniques, such as small and large statues made of stone and bronze.

While being common on the Mediterranean islands and shores, and occasionally in continental Europe, the most ancient traces of **hypogeism** were found in Sardinia. Therefore, the chamber tombs carved into the rock and found across the whole island, referred to as domus de janas, which are an enduring element during the time reviewed in this application, are widely accepted to have had a **local origin**, and to have spread across the region.

Hypogeism continued in the Early Bronze Age (1800-1600 BCE) with *newly* excavated, thus not repurposed, caves, the façades of which emulated the stele of the Tombs of the Giants, the sepulchres soon to be come common during the following Nuragic Age. This highlights the persistence of the hypogeal tradition, but also the profound cultural transformation that took place with the arrival of the Nuragic civilization, witnessed by the transition from underground funerary buildings to above-ground tombs, such as the Tombs of the Giants.
Settlement hypogeism, such as caves and natural shelters used as dwellings, will be discussed below.
On the other hand, **megalithism** in Sardinia is described as the result of the broad phenomenon, specif-

Megalithism

Figurine

Domus de janas

fig. 2.4 - Mother goddess of Su Cungiau de Marcu - Decimoputzu

fig. 2.5 - Mother goddess of Turriga

fig. 2.6- Mother goddess of Monte d'Accoddi - Sassari

fig. 2.8 - Plate from Tomb I of Molia - Illorai

fig. 2.7a and b - Pisside of Ozieri culture from Grotta San Michele - Ozieri

fig. 2.9 - Bell beaker from Tomb I of Santu Pedru - Alghero

fig. 2.10 - Spread of megalithism in Europe

fig. 2.11 - Spread of hypogeism in the Euro-Mediterranean context

ic to the Neolithic communities of the western Mediterranean basin, which developed between 5000 and 2000 BCE.
In Sardinia, it is divided into four periods:

1) The proto-megalithism of grave circles (Middle Neolithic II)
2) The monolithic megalithism of menhir standing stones (Late Neolithic, Copper Age)
3) The trilithic megalithism of dolmen portal tombs (Late Neolithic, Copper Age)
4) The Age of the "megalithic walls" (Copper Age, Monte Claro culture)

Both phenomena (hypogeism and megalithism) resulted in a great number and a variety of examples in the island made using novel construction techniques: rock excavation and three-stone construction, not to mention the dry-laid stone construction technique, already found on the island and that has

fig. 2.12 - Distribution map of dolmens and *allée couvertes*

Construction techniques

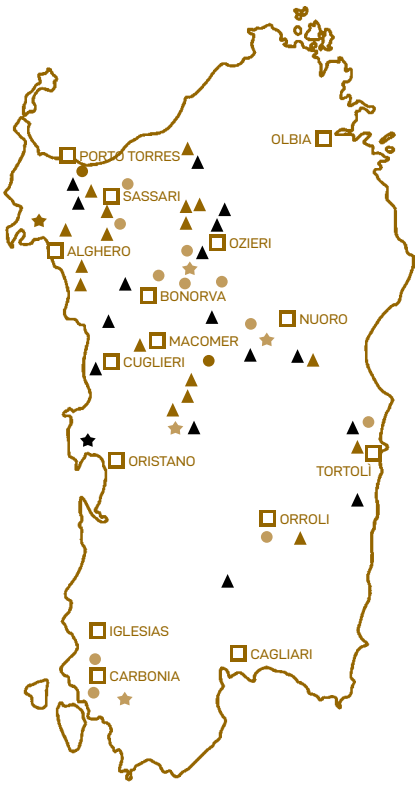


fig. 2.13 - Distribution map of the necropolises featuring *domus de janas*

- Current sites
- 9 to 7 hypogea
- 13 to 10 hypogea
- 19 to 15 hypogea
- 22 to 10 hypogea
- 31 hypogea
- 26 to 24 hypogea
- 39 to 39 hypogea
- 50 hypogea

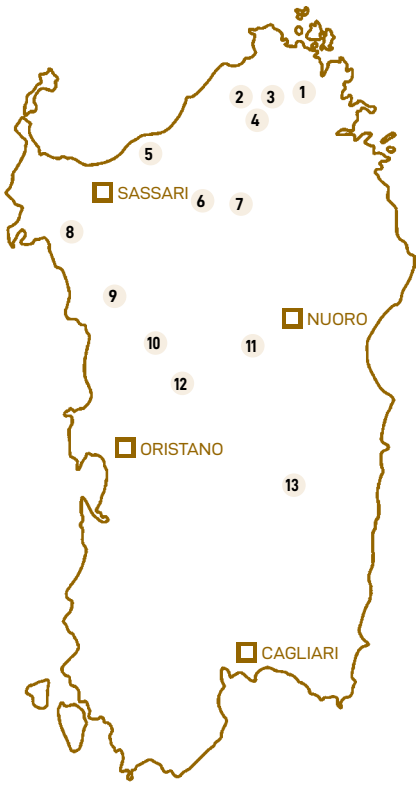


fig. 2.14 - Distribution map of sites featuring megalithic walls

1. *Monte Mazzolu*, Arzachena (Sassari)
2. *Balbu*, Luogosanto (Sassari)
3. *Sant'Antonio*, Luogosanto (Sassari)
4. *Santa Reparata*, Luogosanto (Sassari)
5. *Monte Ossoni*, Castelsardo (Sassari)
6. *Sa Punta S'Arroccu*, Chiaramonti (Sassari)
7. *Monte Cuccu*, Oschiri (Sassari)
8. *Monte Baranta*, Olmedo (Sassari)
9. *San Giuseppe*, Padria (Sassari)
10. *Pedra Oddetta*, Macomer (Nuoro)
11. *Lasasai*, Orani (Nuoro)
12. *Crastu*, Soddì (Oristano)
13. *Crastu Orgiu*, Esterzili (Nuoro).

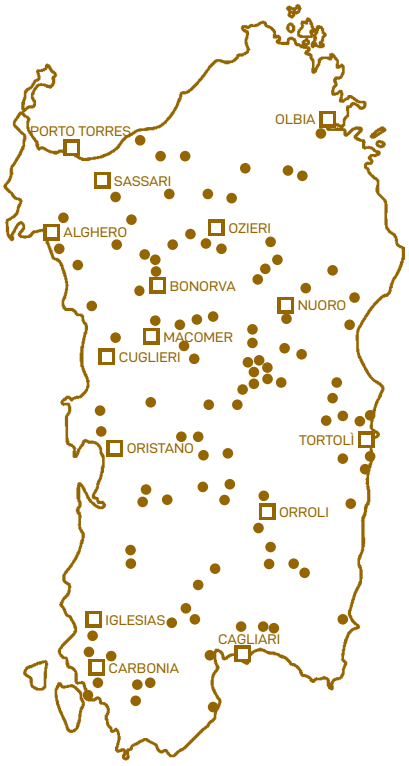


fig. 2.15 - Distribution map of the sites featuring *menhirs (Merella 2009, p. 337).*

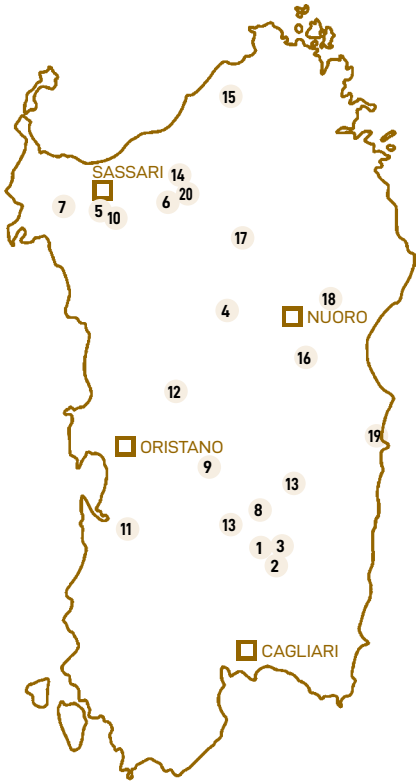


fig. 2.16 - Distribution map of sites featuring megalithic circles

1. Siurgus Donigala
2. Silius 1 Incorradroxiu
3. Silius 2 Pranu Ilixi
4. Orotelli - Sa Lendinosa
5. Uri - Monte Dominigu
6. Ploaghe - Su Sassu
7. Olmedo-Monte Baranta
8. Nurri Tacuara
9. Laconi - Is Cirquitus
10. Ittiri - Sa Figu
11. Guspini - Su Corrazzu de Is Pillonis
12. Ghilarza - Ausadù
13. Gesico - Su Forreddu
14 .Chiaramonti - Sa Ortija
15. Aggius - Pitrischeddu
16. Orgosolo - Ispadularju
17. Pattada - Sa Serra
18. Oliena - Sa Sedda de Biriai
19. Tortolì - Su Ortali e su Monti
20. Ploaghe - Badde Matta

fig. 2.17a-b - Decorative motifs of Tomb IV of Pubusattile - Villanova Monteleone

endured to date (the «Art of dry stone walling» is recognized as intangible cultural heritage by UNESCO).
In Sardinia, hypogeism and megalithism mix and merge in the same monument, e.g., in Tomb II of **Pranu Mutteddu-Goni** (024) and in the Maone-Benetutti dolmen, or, as shown below, are affected on a structural level, as the plans of some Type 6-8*domus de janas* show.

The distinctive monuments of these two phenomena spread differently: the *domus de janas*, characterizing hypogeism, spread in central-northern Sardinia and, marginally, in the central-western area of the island; on the other hand, the so-called "walls", that is, megalithic fortified enclosures,

were located in the central-northern area of the island.

The rest of the megalithic archaeological evidence (menhirs, circles, dolmens and *allées couvertes*) are found in inland areas and, mainly, in the Nuoro area, along the eastern part of the island. In the inland, however, the *domus de janas* and the dolmen/*allées couvertes* partially overlapped.

The density and distribution of the Prehistoric sites were affected by different factors. In addition to the usual randomness that characterizes the discovery of archaeological monuments, it is necessary to consider the development of vegetation and the accumulation of earthy deposits which may have limited the uneven visibility of the sites in the territory.

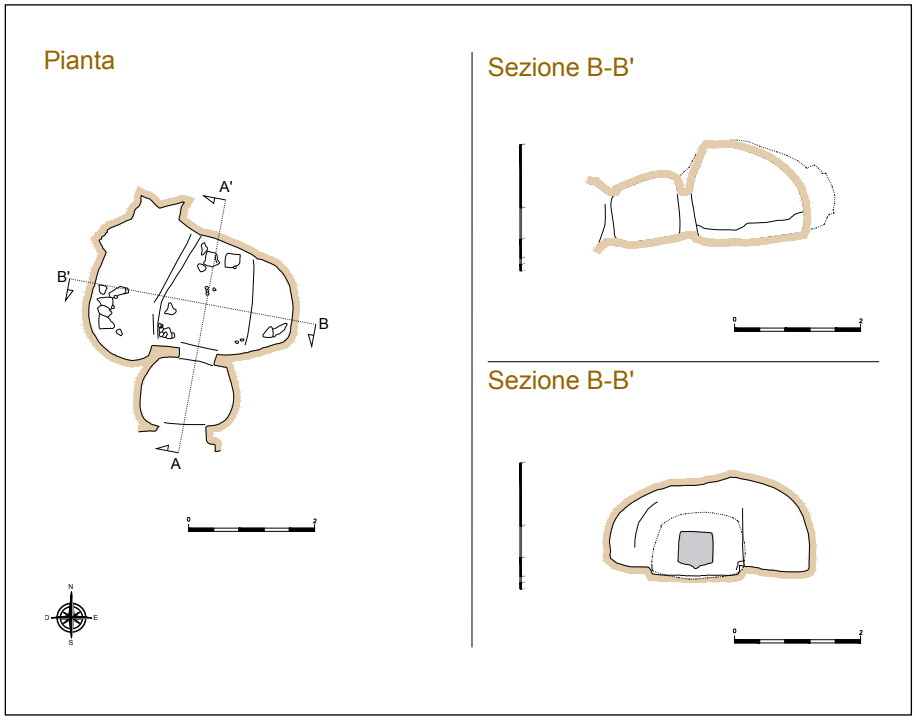


fig. 2.18 - Survey of Tomb IV of Pubusattile - Villanova Monteleone

fig. 2.19 - View of the entrances of *domus de janas* 12 and 13 of Montessu - Villaperuccio

fig. 2.20 - Interior of Tomb I of Su Murrone - Chiaramonti

fig. 2.21 - Detail of ceiling of Tomb I of Su Murrone - Chiaramonti

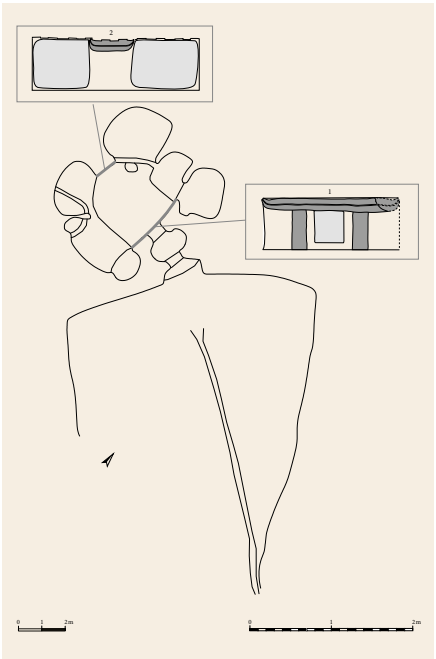


fig. 2.22 - Hill of Tomb I in Su Murrone

In general, some factors are connected to the exploitation of the land: as a general rule, the south-western area of the island has been investigated less, compared to the rest of the territory, for reasons related, for instance, to the exploitation of mineral deposits; the central-eastern area is little explored, because it is difficult to reach, especially due to its geomorphology. There are also some portions of the territory where research investigations may not be conducted as they are included in areas where Italian and non-Italian military bases are located.

However, in Italy, due to the importance of archaeological heritage, the legislation provides for preventive investigations for the construction of large works and infrastructures, under the control of the peripheral Offices of the Ministry of Culture (the Regional Secretariat and the Archaeology, Fine Arts and Landscape Superintendencies). The findings made on these occasions have broadened our knowledge of the heritage. In addition to it, the surveys and excavation campaigns conducted not only by the local Universities of Cagliari and Sassari, but also by HEIs based in other Italian and foreign cities, contribute to the discovery of the prehistoric heritage of Sardinia, with educational and training activities.

Below is a preliminary description of the typical architectural types of the Prehistory of Sardinia, represented in the site.

Civil structures

The caves and natural shelters, the open-air villages where communities used to live and work on a subsistence basis, were the civil structures commonly used during the period of time ranging from the 5th to the end of the 3rd millennium BCE.

There are several caves and natural shelters of considerable interest which used to be used by prehistoric communities. The materials found inside them helped reconstruct, to a large extent, the historical processes of the prehistoric cultural system. The most important archaeological stratifications are found in the Cave of Coloru-Laerru and the Cave of Filiestru-Mara. Sometimes the caves also feature painted or engraved decorations, such as the ***Grotta del Papa*** on the Tavolara Island and ***Grotta del Bue Marino***-Dorgali.

The **Corbeddu-Oliena Cave** (022) that preserves an extraordinary archaeological stratification providing evidence of human presence lasting thousand of years, has been included in the serial site. As described below, the most ancient traces of human presence date back to the Late Paleolithic Age, when it offered shelter to small communities of hunters and gatherers. The cave was then used several times during the Neolithic Age; the most recent traces of a set-

fig. 2.23 - Paintings of Grotta del Papa Tavolara Island

fig. 2.24 - Paintings inside Grotta del Papa - Island of Tavolara

Outdoor villages

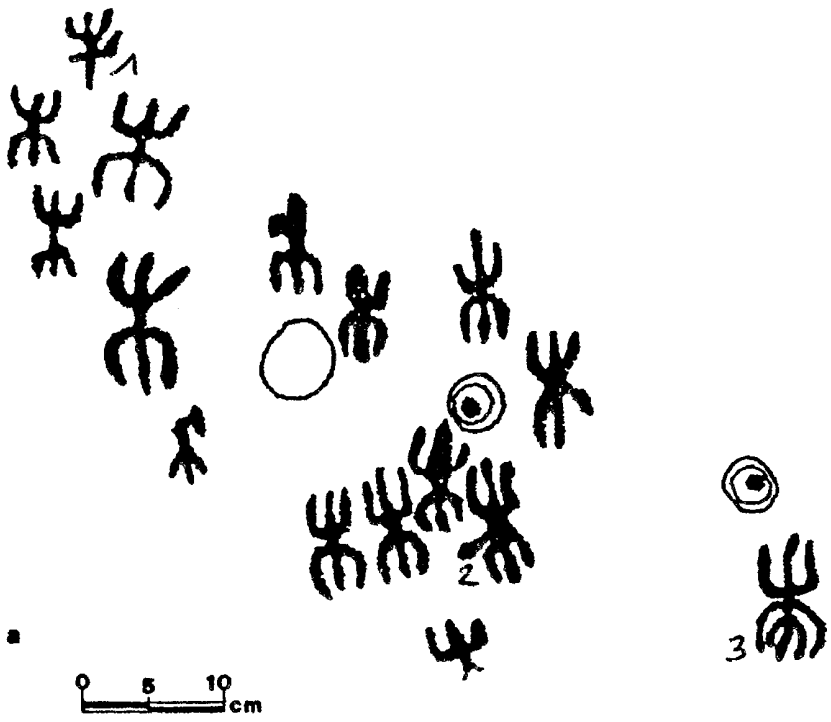


fig. 2.25 - Petroglyphs inside Grotta del Bue Marino - Dorgali

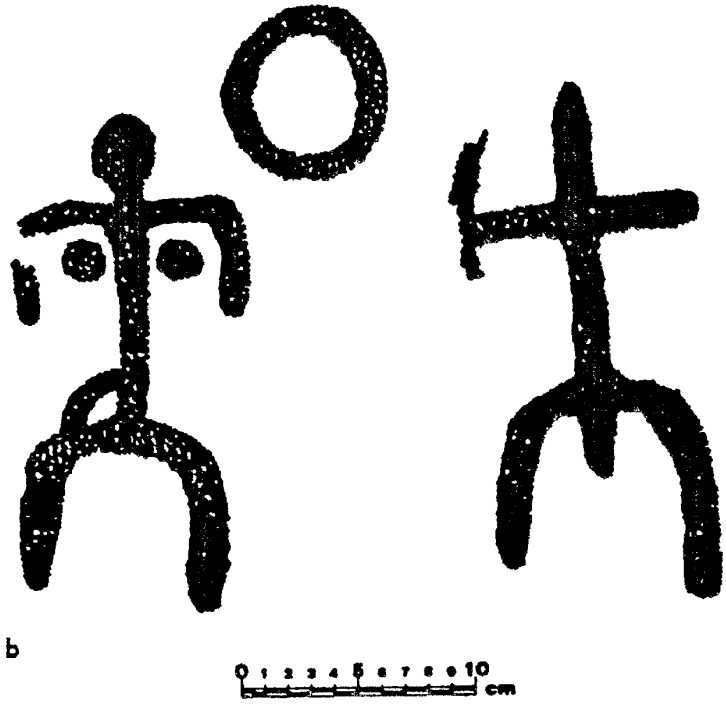


fig. 2.26 - Petroglyphs from Lido di Orrì - Tortolì

tlement date back to the Early Bronze Age, as shown by finds which are attributable to the Bonnanaro culture. The shelters were small natural cavities used by prehistoric people as dwellings, but not only: the **Shelter of Su Forru de is Sinzurreddus-Pau** (023) was, in fact, arranged as a burial site during the Middle Neolithic, while the **Shelter of Luzzanas-Ozieri** (013) features exceptional symbolic patters which suggest a worship purpose during the Copper Age.

In addition to caves and shelters, the most widespread and documented dwellings are the **open-air villages**. Despite being very popular on the Campidano plains, archaeologically they are poorly documented since the huts were usually made of perishable materials. However, some dwellings may be reconstructed based on the plans and architectural elements characterizing them and replicated in some *domus de janas*.
The paradigmatic settlement included in this application is the **settlement of Serra Linta-Sedilo** (017), attributed to the Middle Neolithic II/Recent Neolithic. The village consists of huts including a semicircular space adjacent to a rectangular one, featuring basal dry-laid stone walls along the perimeters.

The **Village of Monte d'Accoddi** (006) was developed beside the Temple between the Middle Neolithic and the Copper Age; inside the "Warlock's Hut", the rammed earth structural elements were found.

Most of the settlements uncovered date back between to the Copper Age and the end of the 3rd millennium,

fig. 2.27 - Monte Ossoni - Castelsardo

when many villages were built in strategic locations, already protected by nature, often surrounded by powerful **megalithic walls**. This marks a clear diversion from the Neolithic lifestyle and testifies to the need to defend the communities from local rivalries and threats by groups coming from outside the island.

About twenty fortified highland villages are known, including **Monte Baranta-Olmedo** (004), Monte Ossoni-Castelsardo, Punta S'Arroccu-Chiaramonti, Punta Sa Zitta-de-Ottana, Pedra Oddetta-Macomer, Crastu-Soddì, S'Albaredda-Tresnuraghi, Sa Fraicata-Bortigiadas and Mandra Manna-Tula. Based on ar-

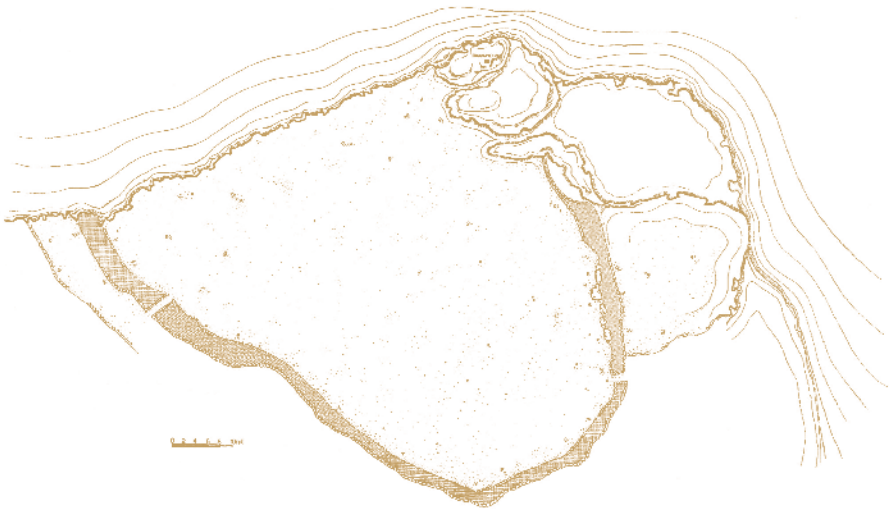


fig. 2.28 - Punta S'Arroccu - Chiaramonti

fig. 2.29 - Pedra Oddetta - Macomer

fig. 2.30 - Monte Baranta - Olmedo

chaeological investigations, the first two complexes refer to the Monte Claro culture, while the others may refer to the same culture due to the fact that their construction elements are similar. Generally, the walls feature two polygonal partition walls filled with small stones.

These monumental complexes have common features:

1) They are located on spurs of rock or high grounds, having overhanging walls.
2) The include a wall that completes the natural defenses offered by the overhang walls.
3) They monitored communication routes.
4) They overlooked a vast surrounding area, fertile and rich in water.

These complexes testify to cultural and social changes on the island: the construction of walls is a novelty compared to the previous phases when no defensive structures or high-altitude dwellings have been documented, thus suggesting they needed defense.

The structure and location of Sardinian walls anticipate and pave the way for the tall Bronze Age buildings, i.e. the nuraghi.

Worship structures

The only known monumental structure of a specifically worship nature is the **Monte D'Accoddi** monumental complex (006), possibly built in the Late Neolithic Age and then renovated during the Copper Age, during the Filigosa and Abealzu cultures, while a burial was made in the Early Bronze Age (Bonnanaro Culture) after the area had been abandoned. It is a unique monument in Sardinia and the Mediterranean, consisting of a truncated pyramidal altar equipped with a ramp. Nearby, a menhir and a menhir-statue were erected; the complex also features a hut settlement still to be fully explored, dating back to the Neolithic and the Copper Age.

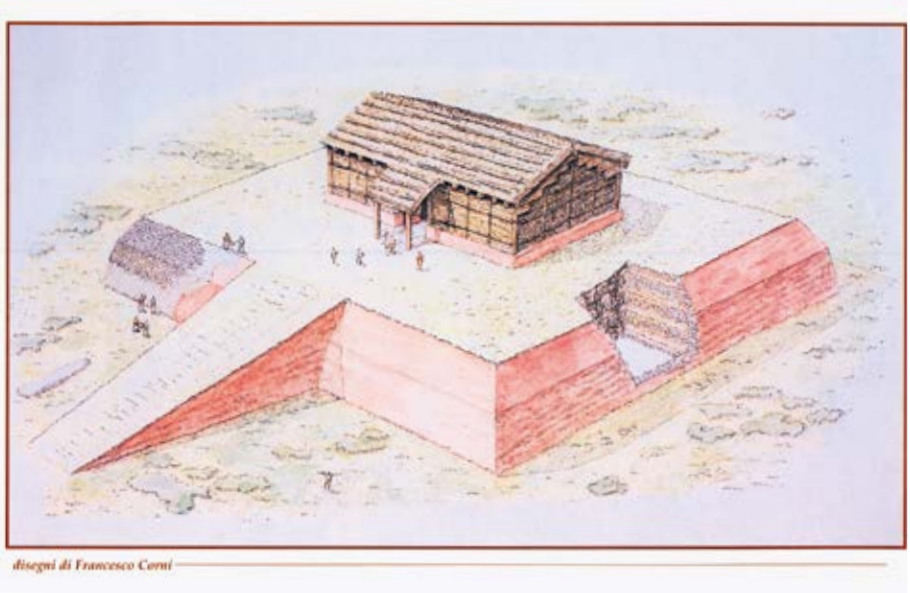


fig. 2.31 - Tentative reconstruction of the Sanctuary of Monte d'Accoddi - Sassari

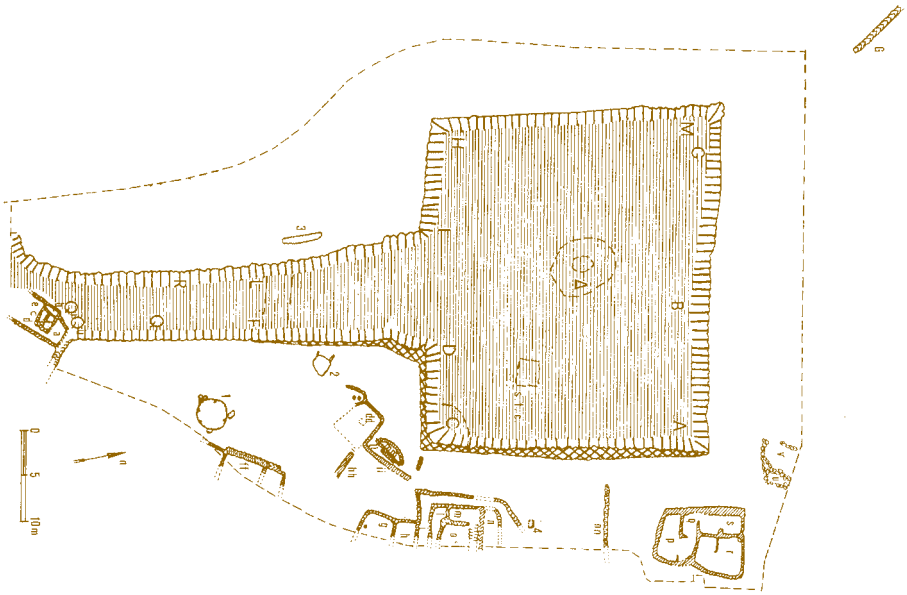


fig. 2.32 - Survey of the Sanctuary of Monte d'Accoddi - Sassari

740 menhirs are referred to in the bibliography, 398 of which are located in the territories of central-eastern Sardinia, with a considerable concentration in Ollolai's Barbagia, the Nuoro region, Mandrolisai and Ogliastra. They are divided into three categories: aniconic, proto-anthropomorphic, and anthropomorphic. They date back to the Ozieri culture (Late Neolithic, 4th millennium BCE) and they endured until the Copper Age (Filigosa/Abealzu cultures, 3000-2600 BCE) coexisting with the Copper Age menhir-statues. They can be found as stand-alone elements, such as the massive menhir of **Cuccuru Tundu-Villa Sant'Antonio** (023), about 6 m high; as lineups of several elements, such as in **Pranu Mutteddu-Goni** (024) and in the Menhirs Valley of Laconi; and in circles. In Sardinia there are around fifty megalithic circles, including those in Taccu Ara-Nurri and Biriai–Oliena.
Multiple or aligned menhirs can also embrace an area where community rituals were performed. Those worship practices were likely to have endured over time, since other worship buildings were erected, such as fountains and wells, during the following ages (Late Bronze Age - Early Iron Age), in the same and adjacent areas. Depending on the context, stand-alone menhirs, lineups and circles may also be connected to burial sites (see below).

Megalithic circles

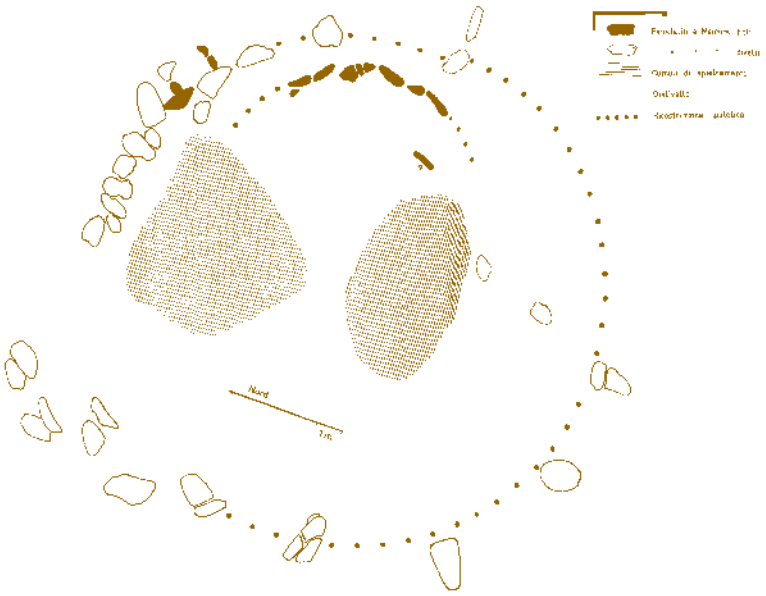


fig. 2.33 - The Circle of Monte Dominigu - Uri

fig. 2.34 - Statue-menhir of Monte d 'Accoddi - Sassari

Funerary structures

The most ancient megalithic funerary structures are the **tomb circles**, built in Sardinia at the end of the Middle Neolithic and referring to proto-megalithism. Those funerary structures consist of one or two rows of sometimes crammed stones, arranged in a circle around a central stone cyst, at times associated with small menhirs. Supposedly, they wre covered by a mound.

The most ancient circles, that is, the Necropolis of Li Muri-Arzachena (010), date back to the Middle Neolithic II and bear witness to the existence of interactions and exchanges with Corsica, France, and Catalonia.

In Sardinia the circles show a remarkable development, as the Archaeological Park of **Pranu Mutteddu-Goni** (026) shows, dating back to the IV-early third millennium BCE and are now being identified in several other sites under study. *Stand-alone or paired menhirs* can be found protecting a tomb or even marking its entrance.

At least five decorated menhirs are known: Su Rosariu-Mamoiada, Jubanne Canu 1 and 2-Orani, San Salvatore di Urzeghe-Florinas.

fig. 2.35 - Dolmen of Crastu Peltuntu – Giave

Li Muri - Arzachena

fig. 2.36 - Allée couverte of Corte Noa - Laconi

From the Neolithic to the Copper Age, menhirs had a symbolic-figurative evolution, shifting to an increasingly anthropomorphic character, resulting in menhir-statues, such as those found in Laconi which suggest the existence of the worship of ancestors.
186 **menhir-statues** are known, mostly found in central Sardinia, for the most part in the Sarcidano area and, in particular, in the territory of the Municipality of Laconi (accounting for about 40% of the finds). They are found also in the Barigadu and Mandrolisai areas (Municipalities of Allai and Samugheo). Farther north, they are also found in the Marghine and Belvì's Barbagia areas; the bordering Usellus area is found between the above-mentioned areas, characterized by elements which may be associated with the Sarcidano and Mandrolisai-Barigadu styles. The numerous scattered fragments found at different sites which have always been associated with the

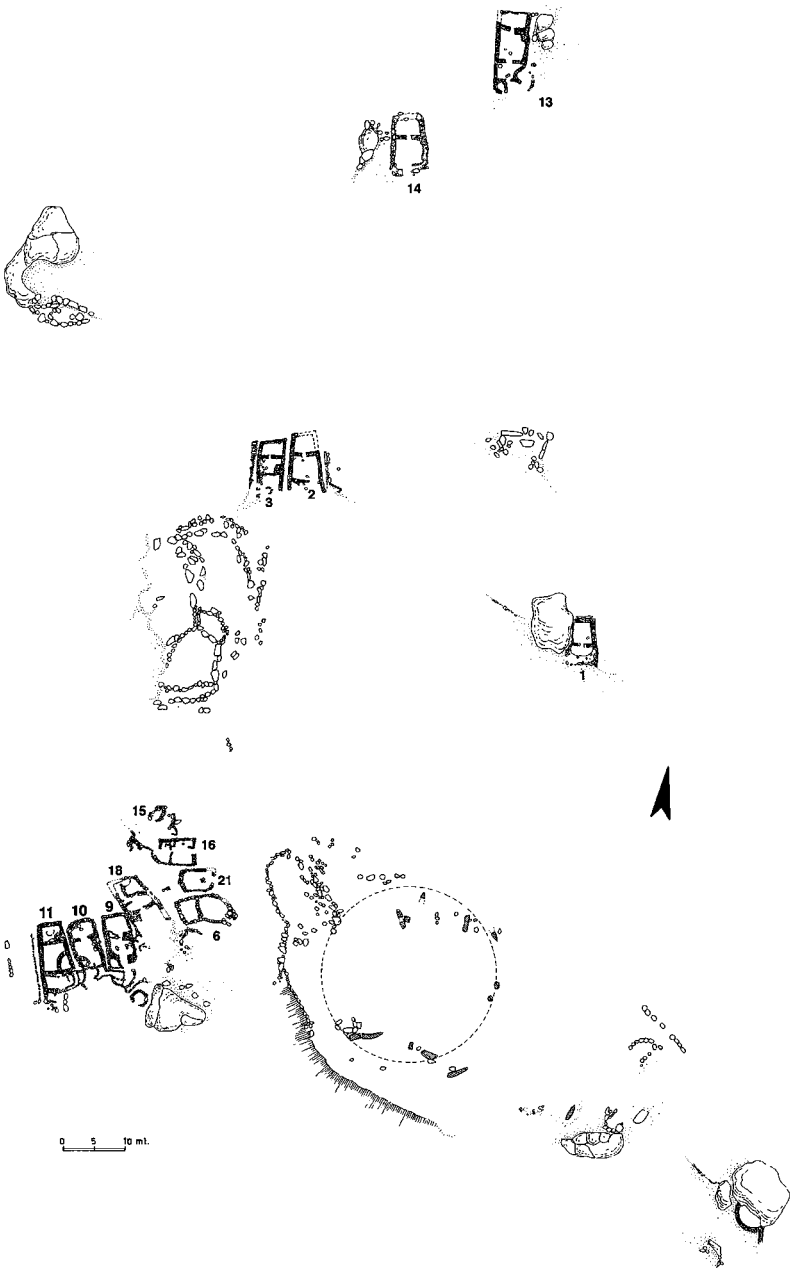


fig. 2.37 - General layout of Biriai - Oliena

Copper Age should be taken into account, in addition to the slabs, the boulders and the rocks (a total of 18) reported in various occasions, mostly in central Sardinia. The decorated slabs of Sa Perda Pinta at the Boeli-Mamoiada and Monte Paza-Sedilo sites are worth mentioning.

Unfortunately, the menhir-statues have always been found out of context, even reused in the Bronze Age. Because of their artistic relevance, they have generally been moved to museums.

Dolmens and **allées couvertes** re-

fig. 2.38 - Cuccuru Tundu Menhir

fig. 2.39 - Menhir triplet at the Necropolis of Pranu Mutteddu - Goni

fig. 2.40 - Stele of Boeli - Mamoiada

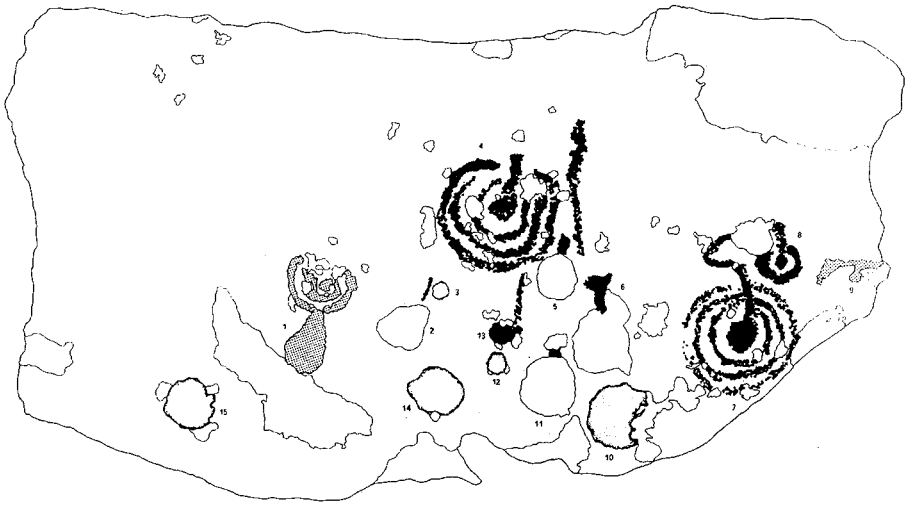


fig. .41 - Decorated slab of Monte Paza - Sedilo

fer to "Trilithic megalithism" (Late Neolithic - Copper Age, 4th-3rd millennium BCE). There are 225 of these dolmen-based architectures in Sardinia, inspired by the West which look quite basic compared to European ones. They are three-stone structures, consisting of vertical stones fixed in the ground and a large covering slab to form a rectangular funerary chamber with a more or less regular plan.

Usually dolmens are stand-alone, such as those in **Sa Covecca-da-Mores** (012), a simple dolmen carved during the Late Neolithic, but in a few cases, they are gathered to form necropolises, such as the site in Matta Larentu-Suni. In 13 dolmens, engraved figures and cups were observed. In two cases, they were associated with possibly ritual gutters used for offerings and animal sacrifices.

Allées couvertes, i.e. "gallery dolmens", are elongated dolmen structures, featuring multiple vertical ortho-

states arranged into walls. In the Nominated Property this type of funerary structure is present in the Necropolis of **Li Muri-Arzachena** (010).
The typical funeral ritual of megalithic tombs is the burial of one or, at most, two individuals.

The most characteristic funerary structures of the Late Prehistoric Age in Sardinia are the chamber tombs carved into the rock, commonly referred to in Sardinian as domus de janas, that is, "the House of the Fairies". They are the most exceptional pieces of evidence of hypogeism in Sardinia and their 3500 finds document the richest and most complex funerary evidence dating back to Sardinian Prehistory. Being scattered across most of the regional territory, they stand out as an identity expression of the Sardinian landscape.

The first artificial hypogea on the island were build during the Middle Neolithic and are characterised by the simple layout. The excavation of the *domus de janas*, considered the result of those hypogea, is attributed to the Ozieri culture (Late Neolithic, 5th millennium BCE), when hypogea experienced an extraordinary architectural development, associated with an exceptional figurative repertoire. Some elements suggest a Middle Neolithic origin, at least for the original cores of some *domus de janas*, for instance, the checkerboard motif painted on the walls of the chamber of Tomb IV in Pubusattile-Villanova Monteleone; some finds found in the Necropolis of **Anghelu Ruju-Alghero** (001), in the *dromos* of the tomb

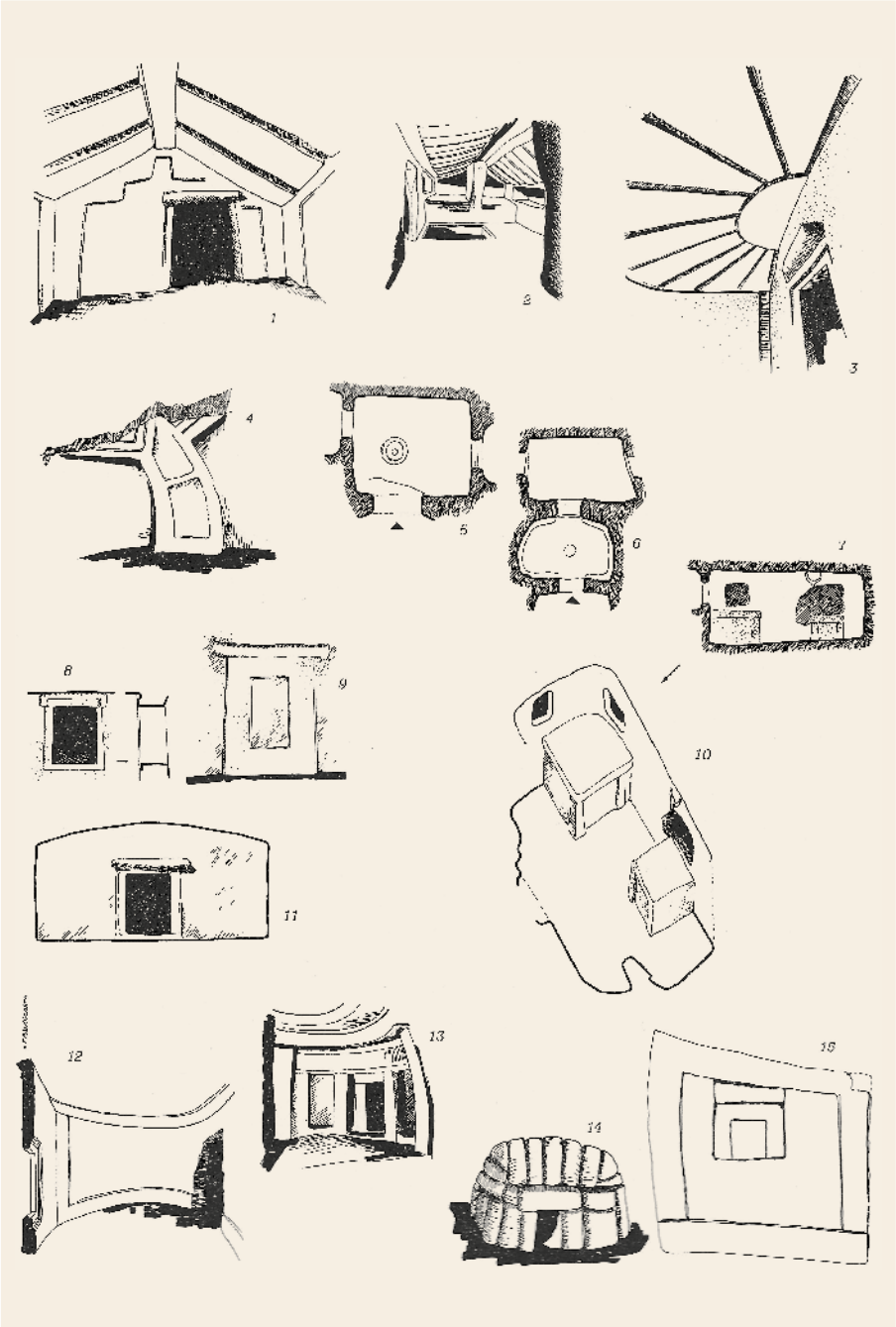


fig. 2.42 - Layout type of *domus de janas*
1. Ochila VIII - Ittiri; 2. Tomba della Casa (House Tomb), S. Andrea Priu - Bonorva; 3. Tomba del Capo (Chief's Tomb), S. Andrea Priu - Bonorva; 4. Montessu - Santadi; 5. Firepit of Tomba del Ciglione, S. Andrea Priu - Bonorva; 6. Band of the floor (= bench) of Tomba delle Finestrelle - Ossi; 7. Li Curuneddi VI - Sassari; 8. S. Pedru I - Alghero; 9. false door of S. Pedru II - Alghero; 10. Li Curuneddi VI - Sassari; 11. S. Andrea Priu - Bonorva; 12. Enas de Cannuia - Bessude; 13. hypogeum of Hai Saflieni - Malta; 14. model of the Temple of Mgarr - Malta; 15. building representation of Tomba delle Finestrelle - Ossi.

The janas

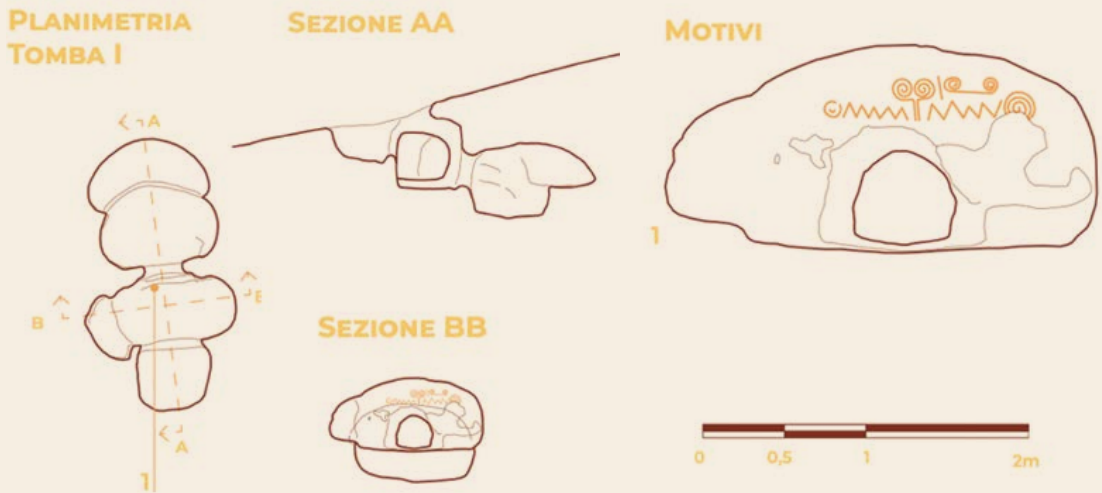


fig. 2.43 - **Pit tomb:** Necropolis of Corongiu - Pimentel

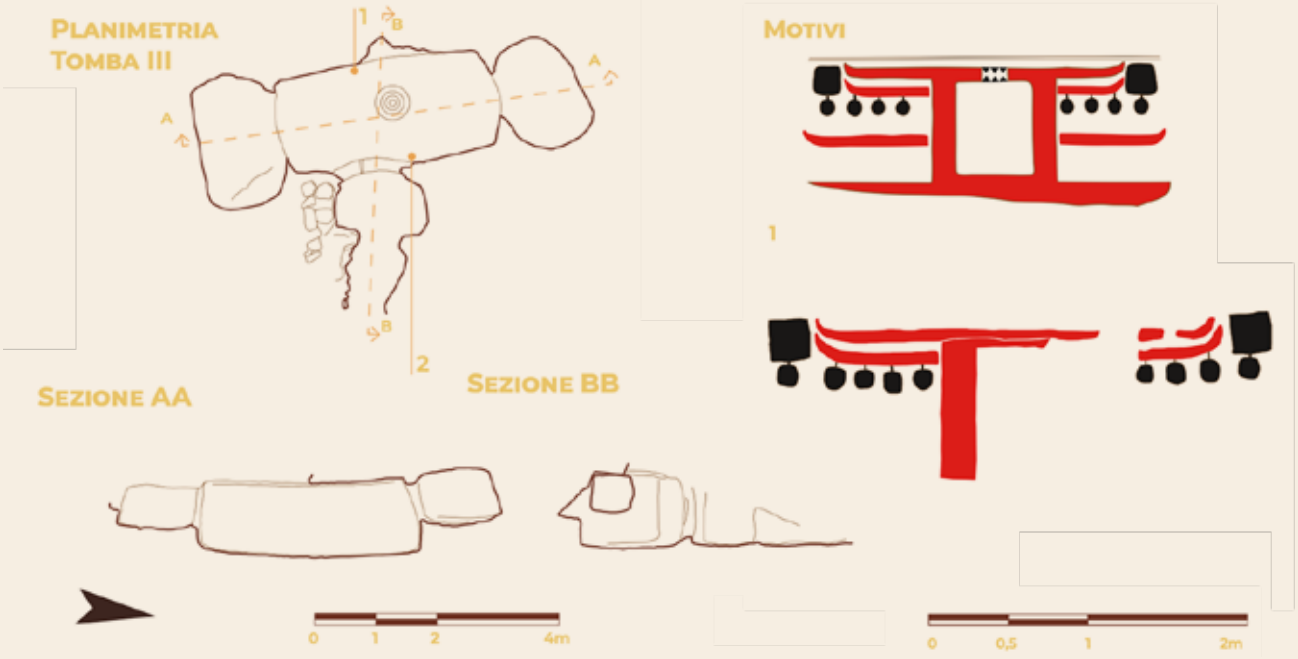


fig. 2.44 - **T-shaped Tomb**: Mandra Antine - Thiesi

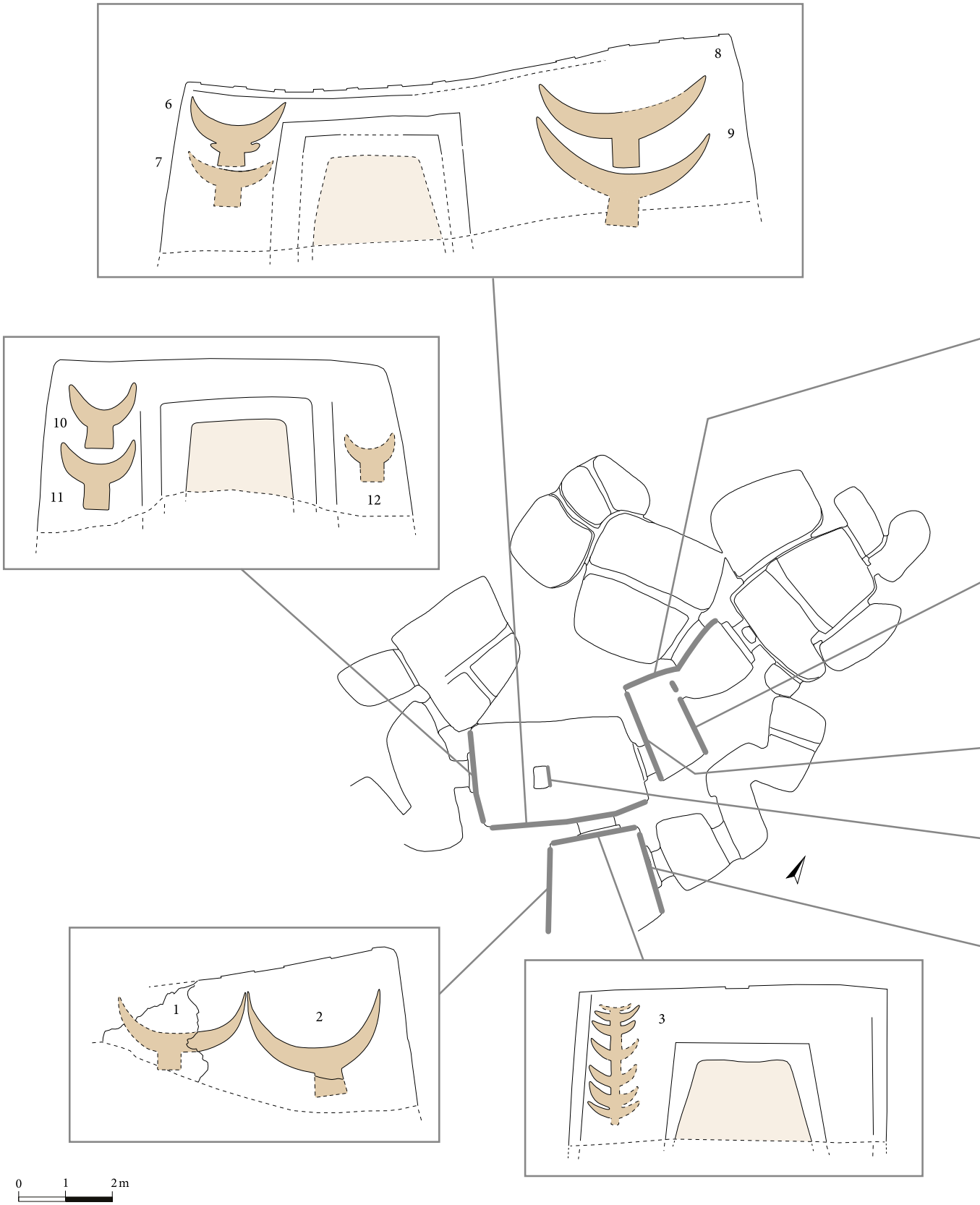
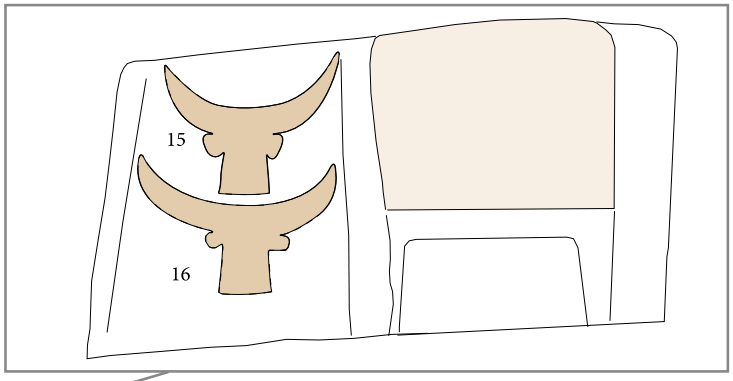


fig. 2.45 - **Complex tomb**: Layout of Tomba Maggiore - Ossi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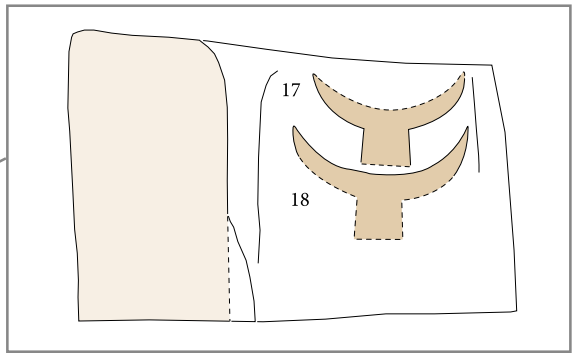
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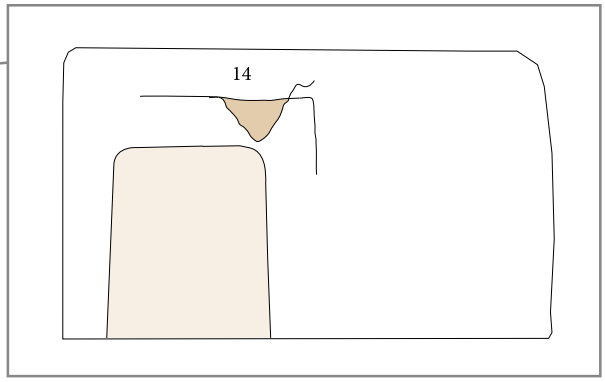
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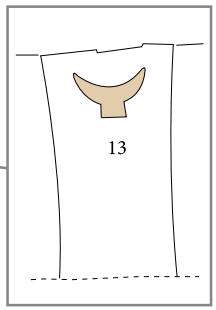
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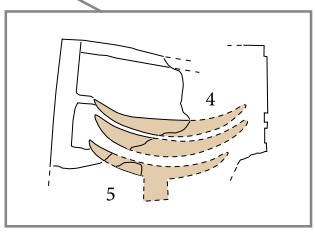
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5

0
1
2 m

of Sant'Iroxi-Decimoputzu and in Tomb X of Santu Pedru-Alghero referring to the San Ciriaco culture and the more recent dating of Tomb IV of Molia-Illorai, obtained by radiometric analysis (4230÷3820 BCE).

The *domus de janas* continued to be built even in the Copper Age, sometimes reflecting the influences of megalithism and, in particular, of the *allées couvertes*, featuring tombs consisting of an essential structure preceded by a long *dromos* and a terminal pavilion or by a short megalithic *dromos* (types 7-8, Tanda 2015).
Not only are the shapes of the *domus de janas* a typical expression of prehistoric Sardinian hypogeism, but also a tangible example of the interactions and exchanges with other European groups which used to build funerary hypogea, and with the contemporary communities fostering megalithism along the shores and in the islands of the Mediterranean and the European continent.

The *domus de janas* had been used for millennia as a testimony to their identity, "political" and funerary value, to mark the ownership of and ruling over a territory by the group that had excavated and used them. Indeed, they were excavated near the villages, with which they maintained a mutual visual line, arising in areas characterized by fertile soils and the presence of water.
The study of the tomb types, the analysis of the signs left on the walls, ceiling and floor of the tombs, their concentration and orientation, and the discovery of stone tools have made it possible to reconstruct the phases of construction of the *domus de janas*. Tools include picks, chisels, hammers, smoothing tools and chips. Stone tools were found in the Necropolises of Anghelu Ruju-Alghero (001), Puttu Codinu-Villanova Monteleone (002), Monte Siseri-Putifigari (003), Su Crucifissu Mannu-Porto Torres (007), Sant'Andrea Priu-Bonorva (014), Sos Furrighesos-Anela (016), Ispiluncas-Sedilo (017) and Montessu-Villaperuccio (026).

fig. 2.46 - Decorative motifs being compared to each other: Tomb III of Sa Pala Larga (Bonorva) and the Malta-based hypogeum of Saflieni

At present, the last excavation and/or renovation works of the *domus de janas* are believed to have occurred after the Monte Claro Culture, since no excavation tools attributable to the period following the second half of the third millennium BCE have be found. However, the hypogea were reused and repurposed, as mentioned several times.

In addition to the proximity to the villages, the place where the tombs

Excavation

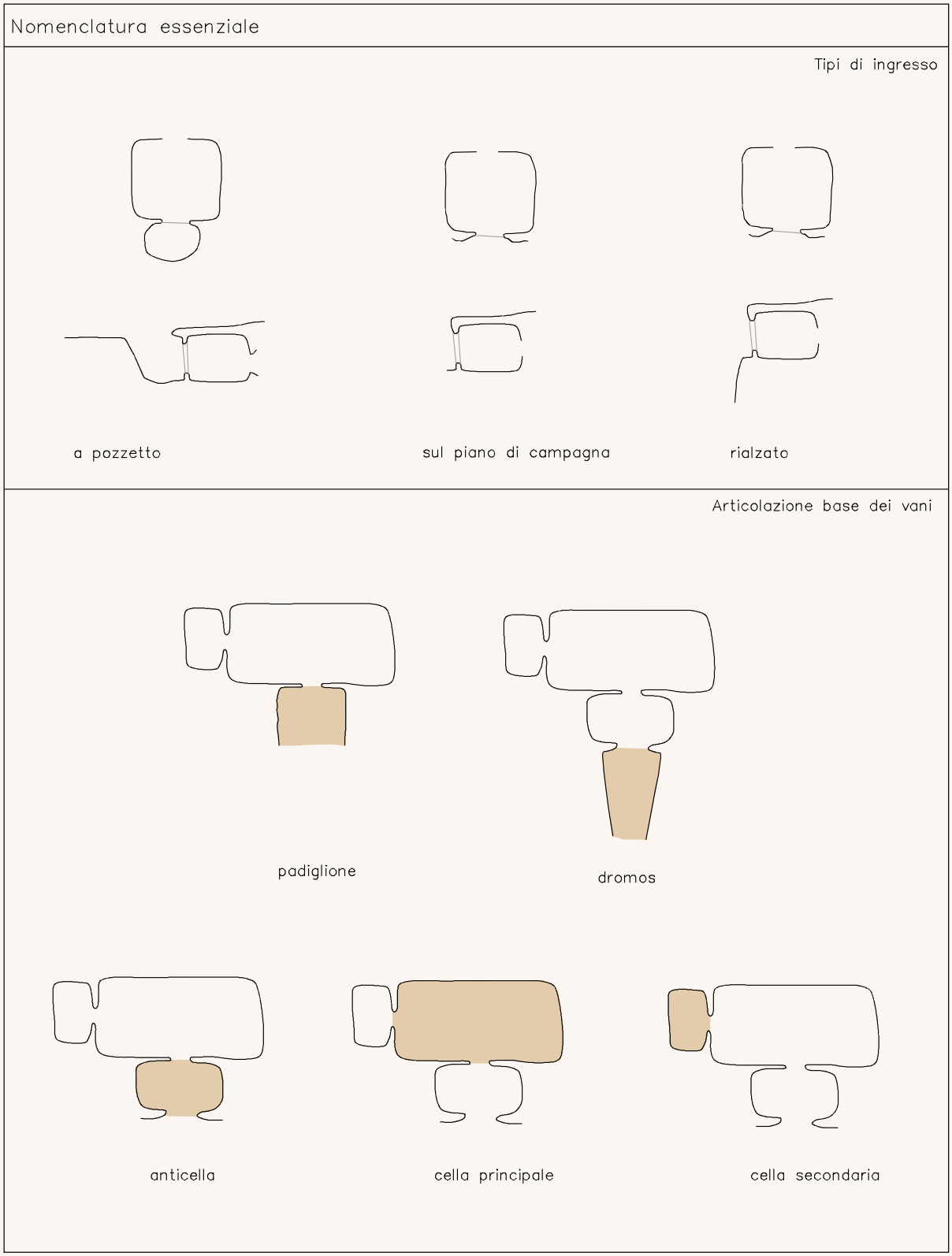


fig. 2.47 - Basic nomenclature

TOMBE 1

MORFOLOGIE TOMBALI		CLASSE II			TOMBE A PROIEZIONE ORIZZONTALE				
NUMERO	TIPO	SOTTOTIPO							
1									
	Tomba con padiglione-cella di varie forme	Padiglione e cella irregolari	Anticella quadrangolare e cella ellissoidale	Grande dromos, anticella subellissoidale e cella semiellissoidale					
2									
	Anticella e cella quadrangolare, cella almeno doppia rispetto all'anticella	Anticella quadrangolare, cella molto maggiore e vani aggiunti	Padiglione con o senza vani aggiunti	Con padiglione e dromos					
3									
	In anfratto								
4									
	Planimetria a T	Con anticella	Dromos con padiglione	Con dromos	Con due anticelle	Dromos, padiglione e anticella	Schema prolungato con vani anche in gruppo	Dromos con padiglione e schema prolungato	
5									
	Tomba con padiglione-cella di varie forme								
6									
	Anticella, cella quadrangolare e padiglione								
7									
	Lungo dromos con padiglione terminale								
8									
	Dromos megalitico aggiunto								

fig. 2.48 - Layout type of *domus de janas*

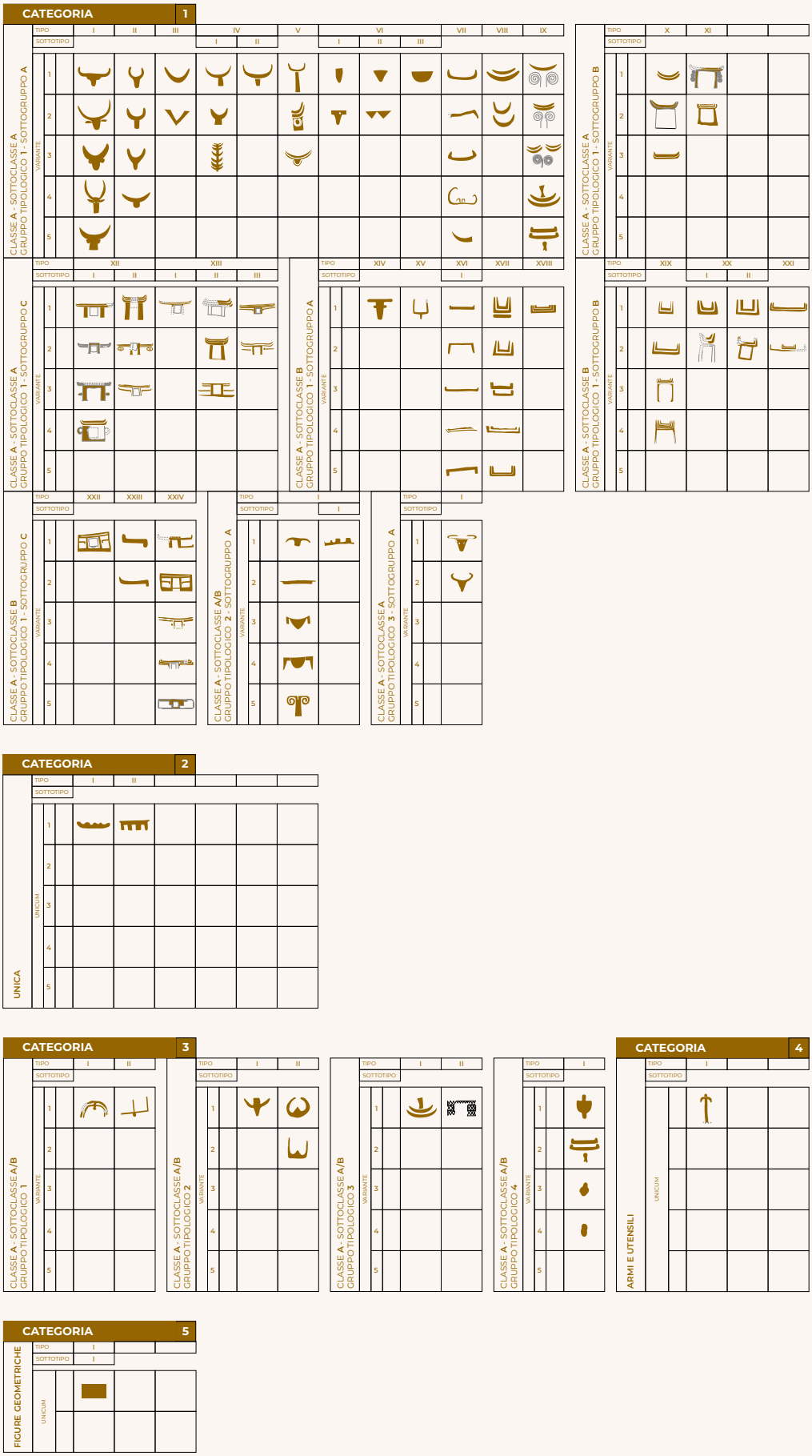
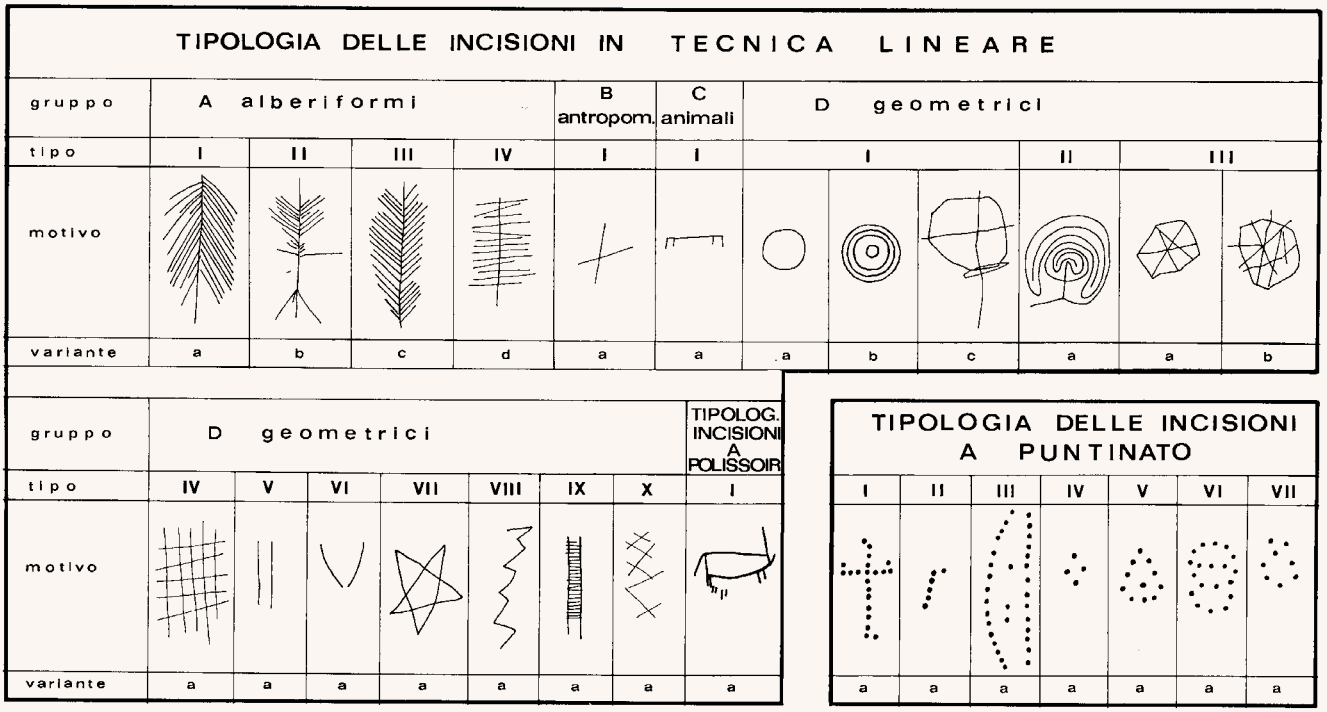


fig. 2.49 - Type of carved decorative motifs



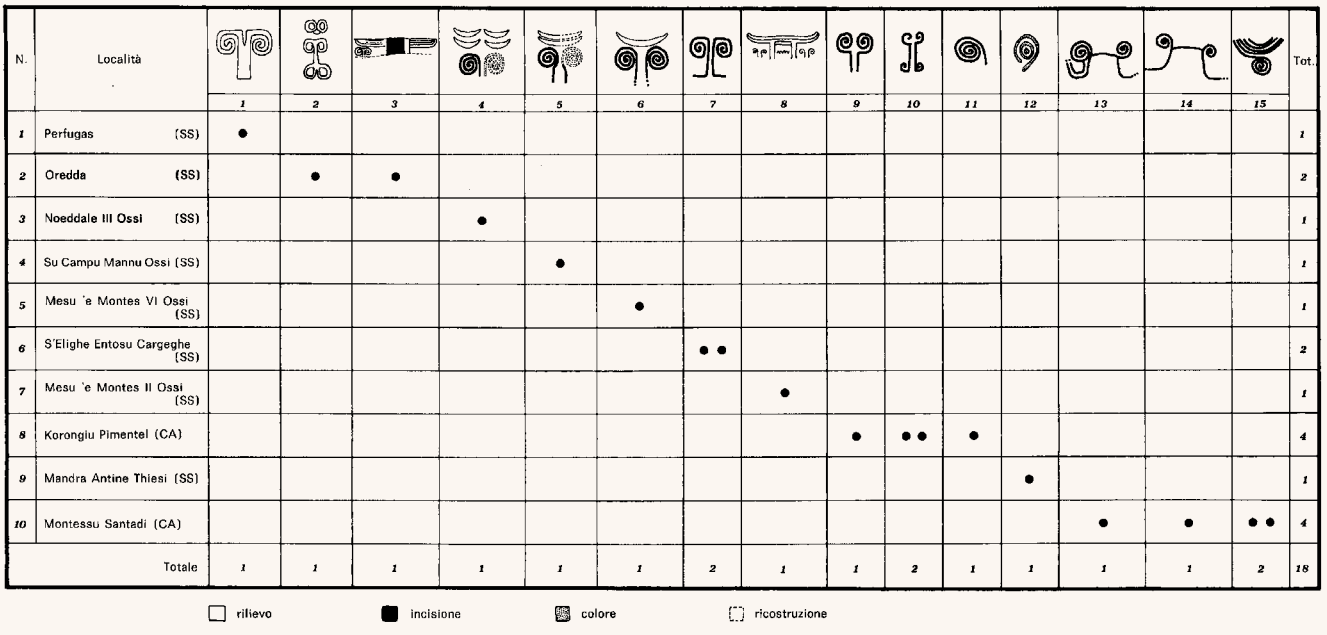
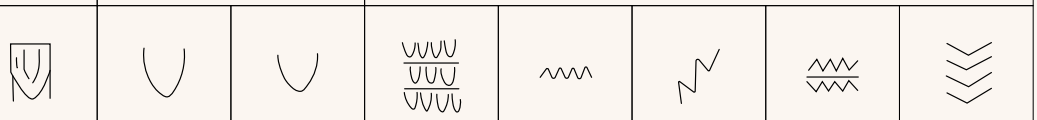
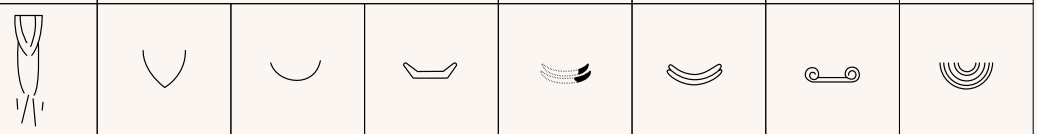
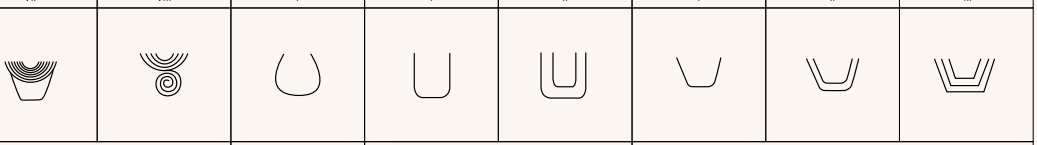
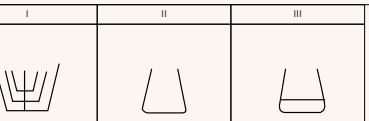


fig. 2.50 - Type of incisions using linear technique: 1) using the *linear* and polissoir *technique*; 2) *dotted*; 3) *spiral-shaped*.

RAGGRUPPAMENTO	A	ANIMALI						
GRUPPO	A	CORNIFORME						
SOTTOGR.		A						
		I ARCO						
FORMA		NORMALE						
TIPO		I	II		III			
MOTIVO								
VARIANTE		A		B	A	B	C	D	E
N. ORDINE		01	02	03	04	05	06	07	08
GRUPPO	A	CORNIFORME						
SOTTOGR.		A						
		I ARCO						
FORMA		APERTA						
TIPO		I	II		III	IV	V	VI
MOTIVO								
VARIANTE		A		B	C	A		
N. ORDINE		09	010	011	012	013	014	015	016
GRUPPO	A	CORNIFORME						
SOTTOGR.		A			II			
		I ARCO			RETTANGOLO NON CONCLUSO			
FORMA		APERTA		CHIUSA	NORMALE		APERTA		
TIPO		VII	VIII	I	I	II	I	II	III
MOTIVO								
VARIANTE		A		A	A		A		
N. ORDINE		017	018	019	020	021	022	023	024
GRUPPO	A	CORNIFORME						
SOTTOGR.		II						
		RETTANGOLO NON CONCLUSO						
FORMA		CHIUSA						
TIPO		I	II	III				
MOTIVO								
VARIANTE		A						
N. ORDINE		025	026	027				
GRUPPO	A	PETTINIFORMI						
SOTTOGR.								
		I ARCO						
FORMA		NORMALE			APERTA			
TIPO		I	II	III	I			
MOTIVO								
VARIANTE		A			A	B	B	A	
N. ORDINE		033	034	035	036	05	06	07	

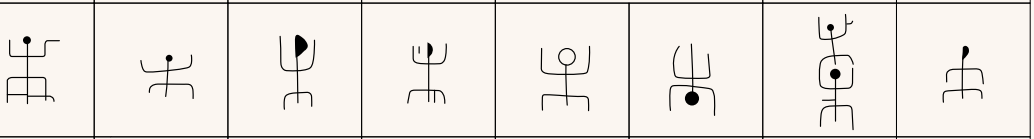
RAGGRUPPAMENTO	B	ANTROPOMORFI						
GRUPPO	B	FIGURE SCHEMATICHE						
SOTTOGR.		I						II
FORMA		NORMALE	APERTA			CHIUSA		NORMALE
TIPO		I	I	II	III	I	II	I
MOTIVO								
VARIANTE		A	A	B	C	B	B	A	A
N. ORDINE		01	02	03	04	05	06	07	08

fig. 2.51 - Type of engraved decorative motifs

GRUPPO	B	FIGURE SCHEMATICHE						
SOTTOGR.	II		III			IV		
FORMA	NORMALE	APERTA	NORMALE	APERTA	CHIUSA	NORMALE		
TIPO	I	II	I	I	I	I	II	III
MOTIVO								
VARIANTE	B	A	A	A	A	A	A	A
N. ORDINE	09	010	011	012	013	014	015	016

GRUPPO	B	FIGURE SCHEMATICHE						
SOTTOGR.	IV							
FORMA	NORMALE		APERTA				CHIUSA	
TIPO	IV	V	I	II	III	IV	I	II
MOTIVO								
VARIANTE	A	A	A	A	A	A	A	A
N. ORDINE	017	018	019	020	021	022	023	024

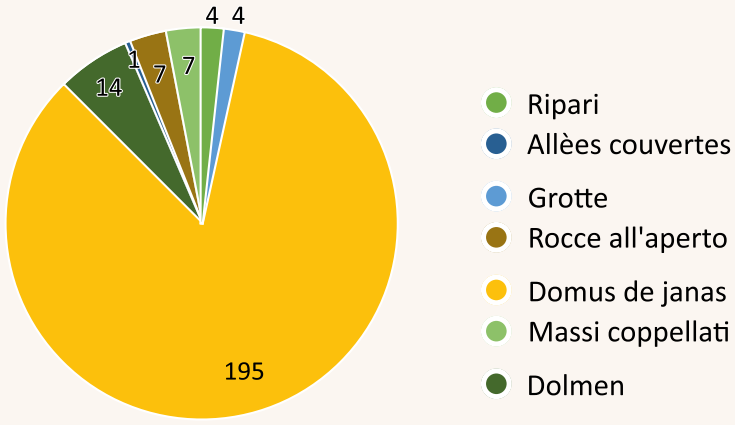
GRUPPO	B	FIG. SCHEMATICHE	FIGURE VARIE					
SOTTOGR.	IV		I		II			
FORMA	CHIUSA							
TIPO	III	I	II	II	III			
MOTIVO								
VARIANTE	A	A	A	A	A			
N. ORDINE	025	026	027	028	029			

RAGGRUPPAMENTO	C	ARMI E UTENSILI					
SOTTOGR.	I		II	III	IV		
TIPO	I	II	I	I	I		
MOTIVO							
VARIANTE	A	B	A	A	A		
N. ORDINE	01	02	03	04	05		

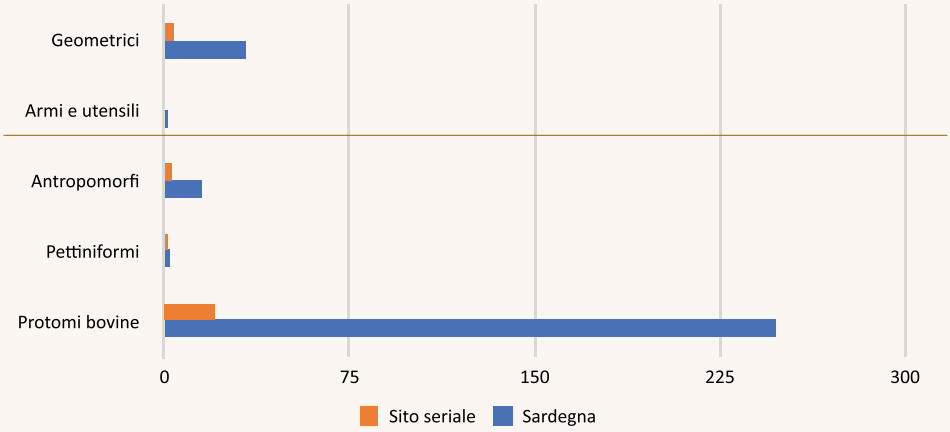
RAGGRUPPAMENTO	D	FIGURE GEOMETRICHE					
SOTTOGR.	I		II	III	IV	V	
TIPO	I	II	I	I	I		
MOTIVO							
VARIANTE	A	B	A	B	A	A	A
N. ORDINE	01	02	03	04	05	06	07

fig. 2.52 - Type of engraved decorative motifs

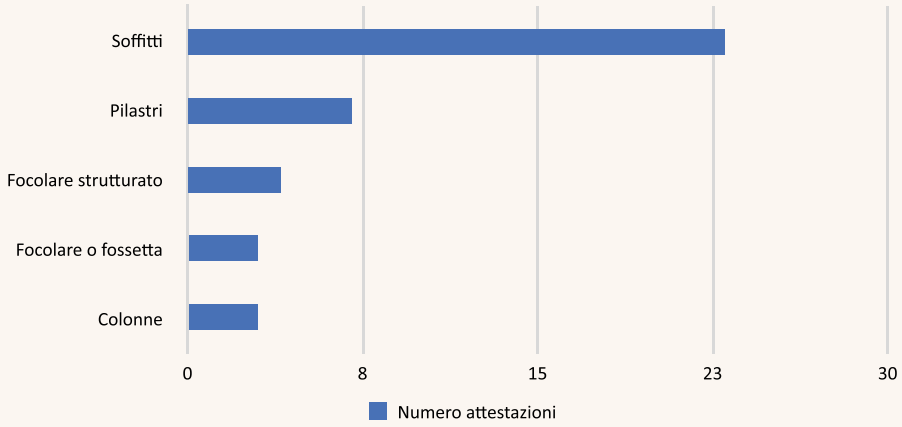
Finds of prehistoric art in Sardinia



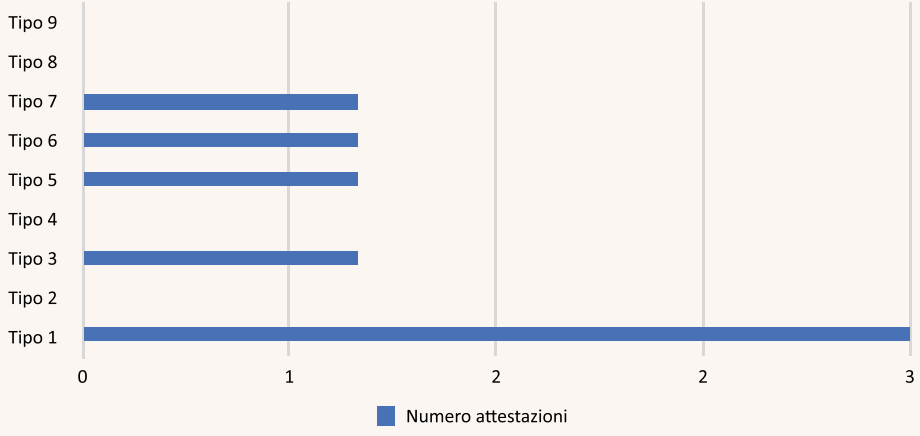
Figurative motif finds



Architectural elements replicated inside the *nominated domus de janas*



Architectural modules replicated inside the *domus de janas*



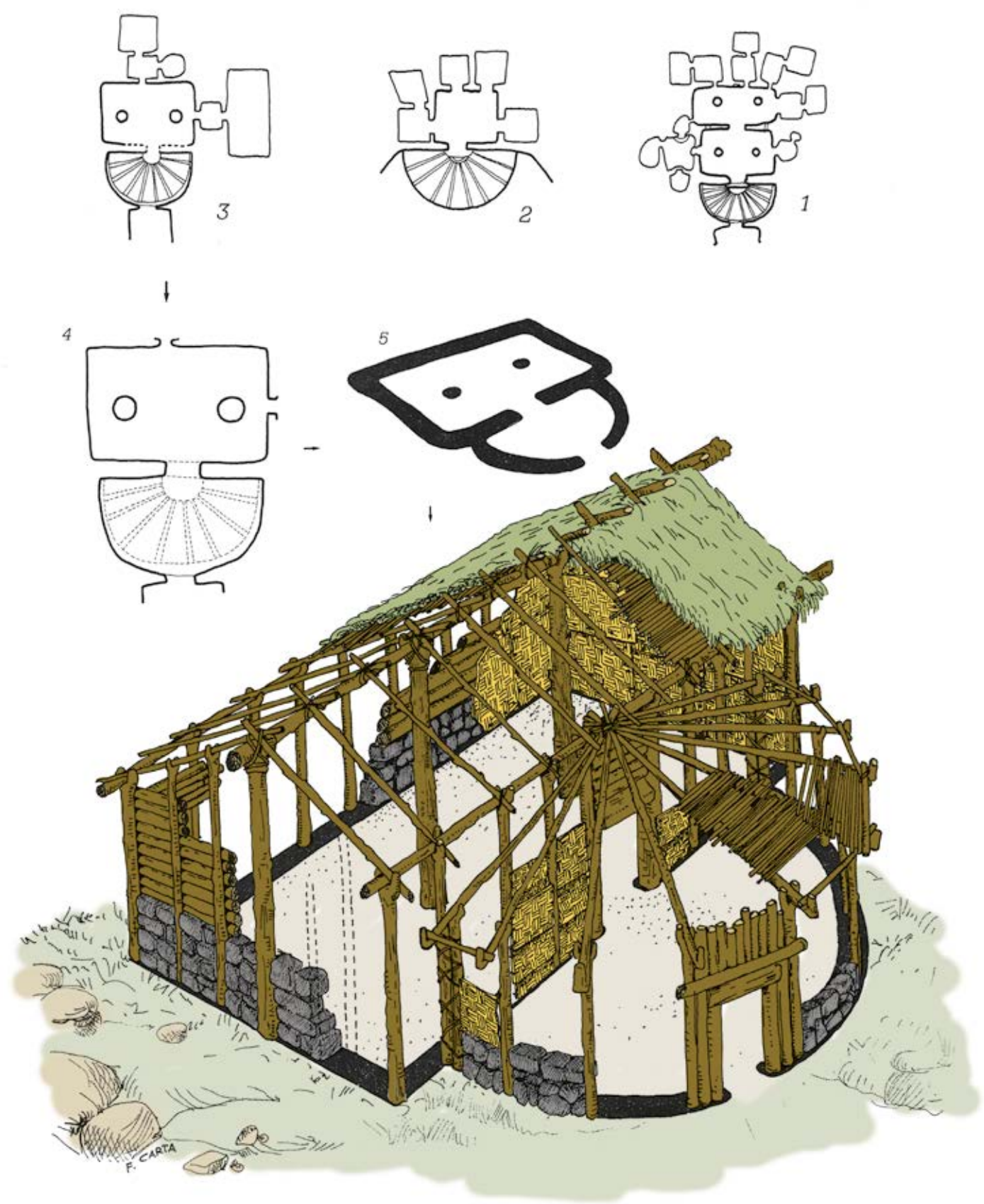


fig. 2.53 - Tentative reconstruction of a Serra Linta hut

fig. 2.54 - Village of Serra Linta (Sedilo), current status

were to be dug was chosen for practical reasons (type, ductility and accessibility of the rocky substrate) and socially shared cultural rules. The prevailing orientation is between N-E and S, towards the sunlit quadrants, to conceptually underline the link with the dwelling: the tomb is the dwelling of the deceased; it is a copy of the dwellings of the living and, therefore, it is oriented similarly. The excavation of the hypogea could take place by widening natural cracks or starting from artificially created cavities.

Preliminary drawings of both uncompleted and completed doors are known. In Anghelu Ruju-Alghero, on the north wall of Chamber *b* of Tomb XXbis, there is an engraved door, while in Tombs XXI and XXVII doors are uncompleted. Finished doors leading to a shallow, unfinished chamber, can be seen in the Tombs XV and XXbis of Anghelu Ruju and in Roccia dell'Elefante-Castelsardo (009). It is difficult to establish exactly the reasons why some chambers have not been completed. Possibly, the rocky substrate was not considered stable or additional spaces were no longer needed.

After the design phase, the chambers were gradually excavated, starting from the top down and the side walls, using picks and wide-faced tools, as evidenced by the parallel grooves found in several hypogea. Once the excavation was completed, the surfaces were then finished to remove the roughness and level the surfaces. A "chisel" was used in combination with a mallet, slanting with respect to the wall surface. The traces left

fig. 2.55 - Village of Serra Linta (Sedilo), tentative reconstruction

on the walls of the *domus de janas* consist of three parallel grooves; they are visible in the necropolises dug in the trachytic tuff (such as Sos Furrighesos-Anela), while in the necropolises dug in limestone (such as Su Crucifissu Mannu-Porto Torres) the process of natural degradation has covered the signs of processing.
The plans of the hypogea, which were accessed through a pit (in the most ancient tombs, such as Corongiu-Pimentel), a *dromos* or staircase entrances, at times featuring complex structures (e.g., Mandra Antine-Thiesi), up to 20 rooms (Tomb of S'Adde 'e Asile-Ossi).
Complexity is not the result of a set design, but it is the result of renovations and additions over the long period of time when the hypogea were used.
It is believed that other funerary or passage rooms were added to an original core structure, for necessity or ideological reasons, without a pre-established scheme. It was not always possible to determine when and in what order those changes were carried out in each hypogeum. Their attendance continued until historical ages. However, to confirm the authenticity of the *domus de janas*, no renovations have been attributed after the third millennium BCE, but only marginal changes related to the shape of the entrances, possibly caused by natural degradation in often unclear chronological phases.

The *domus de janas* were collective tombs. There is not enough information to reconstruct the burial methods related to the recent Neolithic, because the tombs were found without any archaeological deposit or because the several reuses carried out over thousands of years, involved the removal of the most ancient burials and the replacement with the most recent ones. The set that accompanied the burials consisted of ceramic vases, anthropomorphic

idols, blades and arrowheads made of flint or obsidian, sometimes stone picks.
In 1961, the excavation of the Necropolis of San Benedetto-Iglesias unearthed secondary tombs storing vases, blades, arrowheads and other stone tools attributable to the Ozieri culture.

On the other side, Taramelli reports the discovery (1904-1905) of primary burials consisting of skeletal remains lying down and in a supine position, in the main chamber and in the secondary chambers of Tomb XI of Anghelu Ruju-Alghero. One of the buried was surrounded by about fifty stone tools: perhaps a stonemason, buried with his own tools.
The discovery of vases in front of the hatch of Tomb XI has been interpreted as offerings to the dead; the same necropolis seems to provide evidence of food consumption in the corridors and inside the hypogea.
In the Copper Age, the funerary ritual was performed in the secondary tomb, divided into stages. The burial of the corpse could be accompanied by the ritual manipulation of the remains of the deceased, which entailed the loss of individual identity, before the final accommodation in the innermost chambers. In the Filigosa-Abealzu phase, the architectural interventions were directed to the excavation of cells and the creation of cup-and-ring stones or other decorations.
The deceased were accompanied by a series of clay artifacts and ceramics (vases, loom weights, and smelters) and items made of stone and hard animal matter (ornaments, weapons, and utensils).
The Monte Claro materials gradually replaced those of Filigosa in the middle of the third millennium.
The Monte Claro culture is the final stage of the excavation of the *domus de janas*. Reuse and renovations of pre-existing burials continued through the construction of corridor dolmen-megalithic entrances.
There are no elements to support connections between this cultural phase and the Bell Beaker phase, which includes a characteristic set of items: the bell-shaped beaker; bone, shell, stone necklace beads; hatchet-shaped amulet; crescent moon-shaped pendants; buttons featuring V-shaped punctures; short copper or bronze daggers; and the "*brassards*", archer bracelets. Among the candidate monuments, in Tomb 3 of Ispiluncas-Sedilo, bone remains arranged in a chaotic way, including medium-sized stones, were found.
The finds of the Necropolises of Anghelu Ruju-Alghero, Su Crucifissu Mannu-Porto Torres and Sos Furrighesos-Anela are also worth mentioning.

During the Bonnanaro *facies*, the burial of the deceased involved the transfer of bone remains and artifacts associated with previous burials and took place following the selection of anatomical parts.
A example case is Tomb XVI of the Necropolis of Su Crucifissu Mannu-Porto Torres, where at least thirteen secondary tombs have been identified within stone enclosures, on which the long bones and skull of the buried rested.
At least 220 out of the 3500 already known, fall within the category of **decorated domus de janas**, an exceptional historical, cultural, and artistic heritage considering their quality, their quality and the value of the art they are almost unique worldwide, since no other site has shown a comparable number of findings in the coeval period.
There are seven techniques used in the execution of the decorative motifs, sometimes combined: sculpture; direct or indirect hammer engraving; linear technique or graffiti; *polissoir*" technique; dotting; painting directly on the wall or on plaster; sculpted strips.

With regard to figurative motifs, five categories are identified: protomes or horn-shaped motifs or bucrania (248 finds), comb-shaped motifs (2), anthropomorphic motifs (15), weapons and tools (1), and geometric figures (33). While some motifs are featured is several finds, others have been found only once.

The *domus de janas* included in the Serial Site feature examples of the five categories listed above. In 89 tombs, individual architectural elements or the entire hut arrangement are replicated, of which almost no archaeological traces remain, as mentioned above, because they were made of perishable materials. Therefore, the tombs have a fundamental documentary value.

Considering the limited space available in this paragraph, the characteristics of the serial property have only been briefly described here; therefore, please refer to the scientific in-depth studies contained in Annex 3.

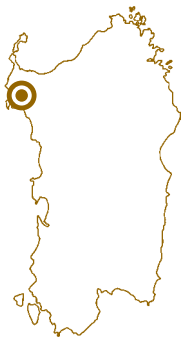
Obsidian

The art of domus de janas

Figurative motifs

001.
NECROPOLIS OF ANGHELU RUJU

Alghero



SP 42 dei Due Mari, 07041 Alghero SS

J8MG+6H Alghero, Sassari Province

fig. 2.56 - Top view of the necropolis

Located in a rolling plain bordered to the West by Rio Filibertu, it consists of thirty-eight tombs: thirty-seven *domus de janas* and Tomb XXVI, a pit tomb. Based on the number of tombs, it is the largest prehistoric funerary complex in northern Sardinia.
The necropolis was discovered in 1903 during quarry works and first investigated by Taramelli (1904-1908) and then, on several occasions, between 1936 and 1995.
The tombs, excavated in an outcrop of calcarenite in the Middle-late and Late Neolithic, were frequently reused during the Eneolithic and Early Bronze Age. Their reuse during the Copper Age and the Early Bronze Age are well documented, particularly in the final stages relating to the Bell Beaker and the Bonnanaro cultures.

The hypogea are divided into two groups, separated by a strip around 30 meters wide, where no tombs are found: the first, that is located on the flat section of the area, consists of seven tombs; the second, including thirty-one tombs, lies at the top and along the northern and eastern foot of a small limestone sandstone hill.

The tombs, generally oriented to East and South-West, may be accessed through a pit entrance or a *dromos* (corridor) entrance, usually descending and equipped with carved stairs at the entrance. Tombs II and XXbis include *dromos* of monumental dimensions, while in several tombs a transformation of the pit into a corridor may be observed or speculated. Based on the discovery of Ozieri pottery in both funerary complexes, Giovanni Maria Demartis claimed that the transition from the most ancient model to the most recent one took place during the first half of the fourth millennium BCE and that it may to be related to the excavation of all the hypogea of the necropolis in two different moments, except for some negligible later works. Vincenzo Santoni's papers helped recognize some pottery dating back to the San Ciriaco culture (Middle Neolithic II) among the materials found in the tombs, thus suggesting that the first *domus de janas*were built at the end of the fifth millennium BCE.

Regarding the arrangement of chambers, all the hypogea have multi-chamber plans, with up to eleven rooms (Tomb III). The tombs having a pit entrance, that is, the

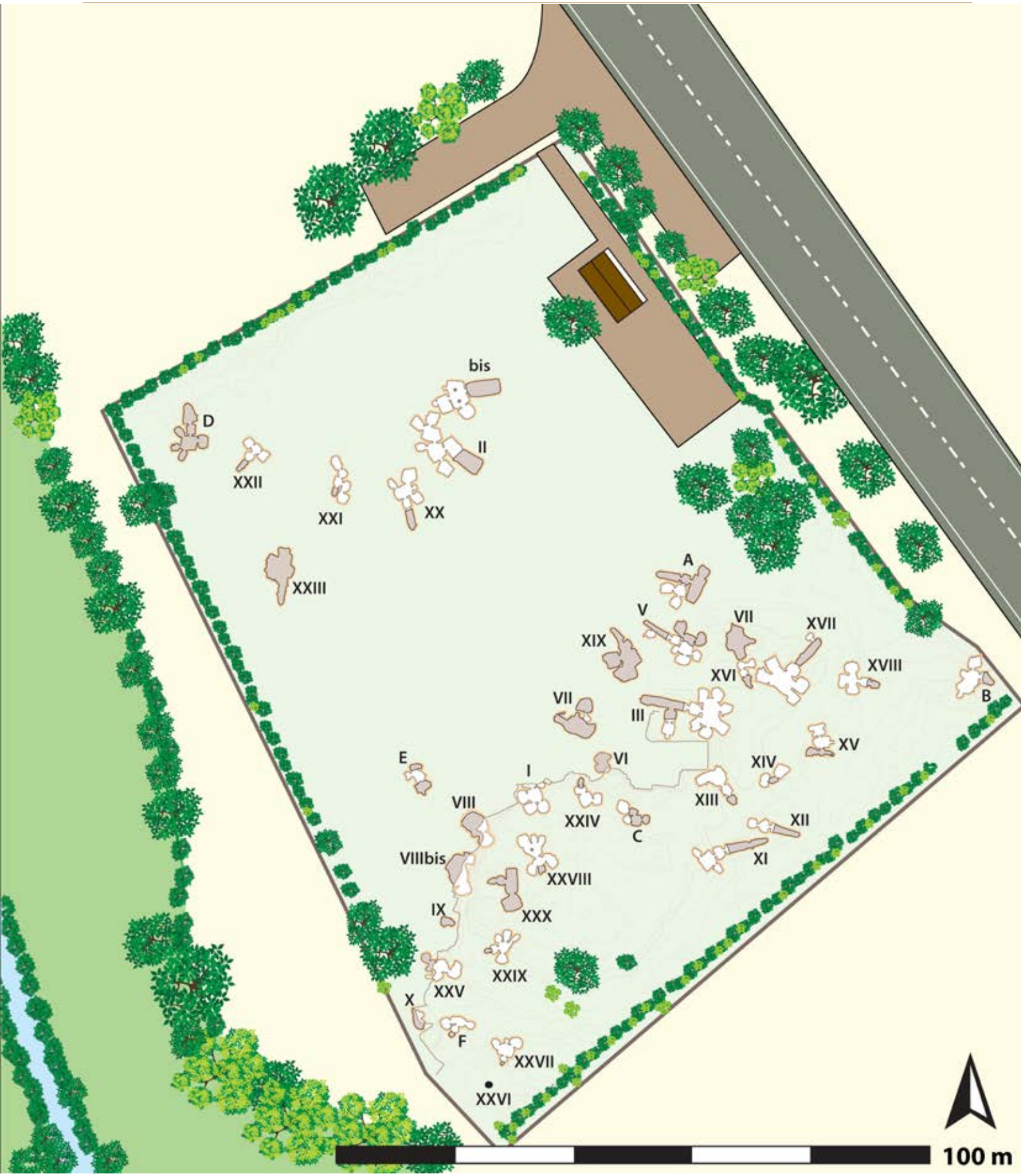


fig. 2.57 - General layout of the necropolis

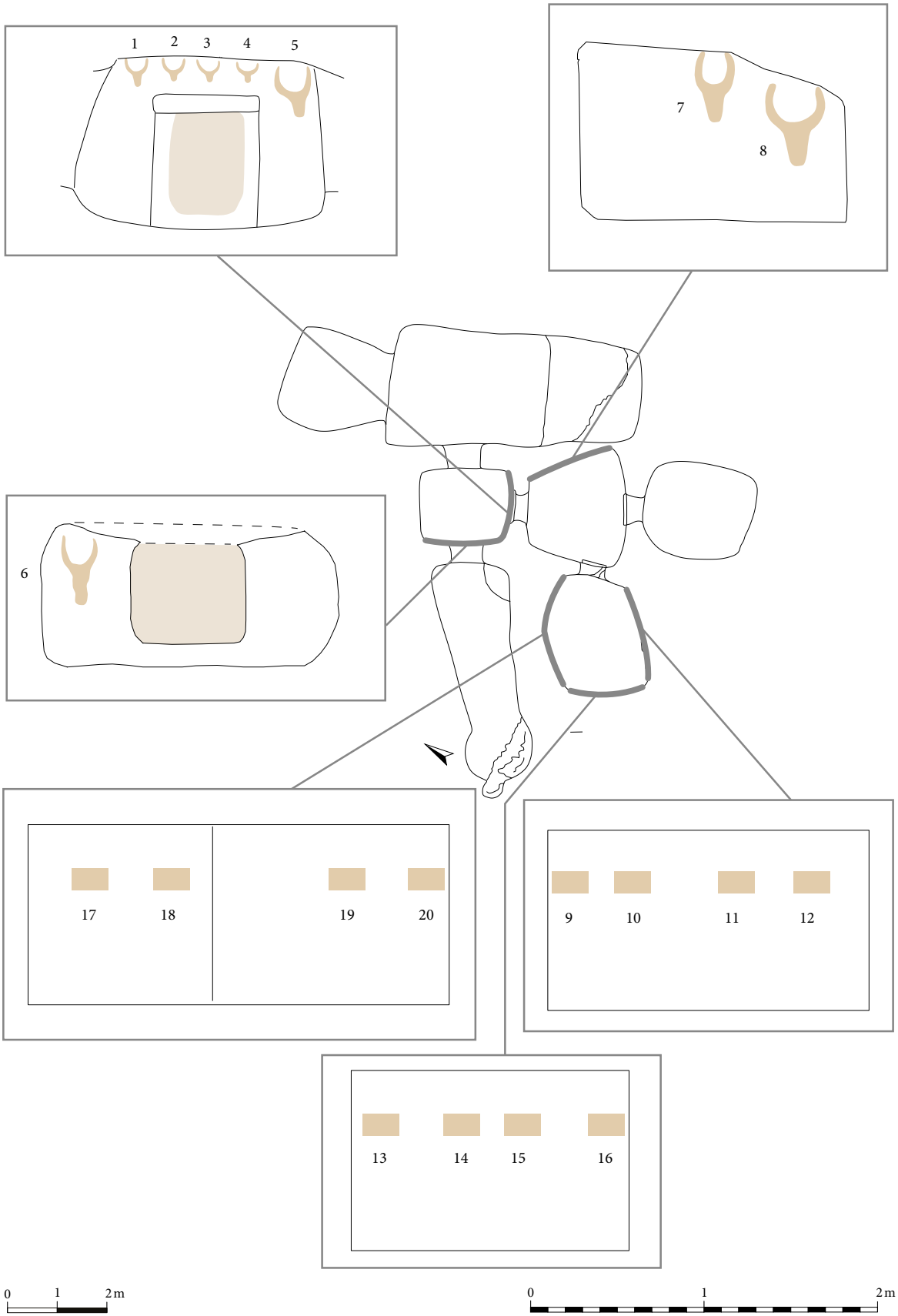


fig. 2.58 - Layout of Tomb A

fig. 2.59 - Protomes outside Tomb A

most ancient ones, generally have an irregular plan, no antechamber and chambers with a more curvy profile, while those having a *dromos* entrance feature a more regular, often T-shaped, plan with a pavilion and at least the second chamber with a straight profile.
Inside the hypogea, architectural elements are replicated: columns, pillars, bases, lesenes, shed ceilings (Tomb XXbis) or double pitched ceilings (Tomb XXX). These motifs are mostly found in the group of tombs with a *dromos* entrance. Tombs A,

XIX, XXbis, XXVIII, XXX, and C include sculpted symbolic motifs, such as false doors and bull protomes.

Tomb A

Considering the art motifs found inside it, it is the most significant tomb of the necropolis. Located along the northern boundary of the Anghelu Ruju hill, the tomb features a NW-facing *dromos*, an antechamber, and a main room equipped with two large side niches. These chambers are currently open-air.
In addition to the main room, the antechamber also leads to side chamber, leading in turn to two additional chambers. The long descending *dromos*, equipped with an access step, has a sub-triangular layout (length 4.84 m) and led to the access door to the antechamber through a pavilion what is no longer visible. The antechamber, having a quadrangular layout (length 1.84 m; width 1.84 m), originally had well-finished walls. On the right wall, the door leads to a side room; above the door equipped with recesses and a false lintel, four small protomes featuring bull snout and horns, are carved in a horizontal sequence; two other larger "naturalistic" protomes are carved slightly to the right of this group. On the left wall of the side chamber, there is another pair of protomes, the shape of which is similar the previous ones, but much larger. This chamber leads to two adjacent rooms; the one on the right features a series of geometrical motifs including twelve raised panels on the walls. From the door obtained on the back wall of the cell you can access the largest compartment of the hypogeum (width 2.90 m; length 2.10 m); it has a quadrangular plan, ruined walls and two large opposing niches, raised from the floor. The bull protomes carved in this tomb are Type II Tanda (2021). Fifty of them were documented in twelve tombs, all located in northwestern Sardinia.

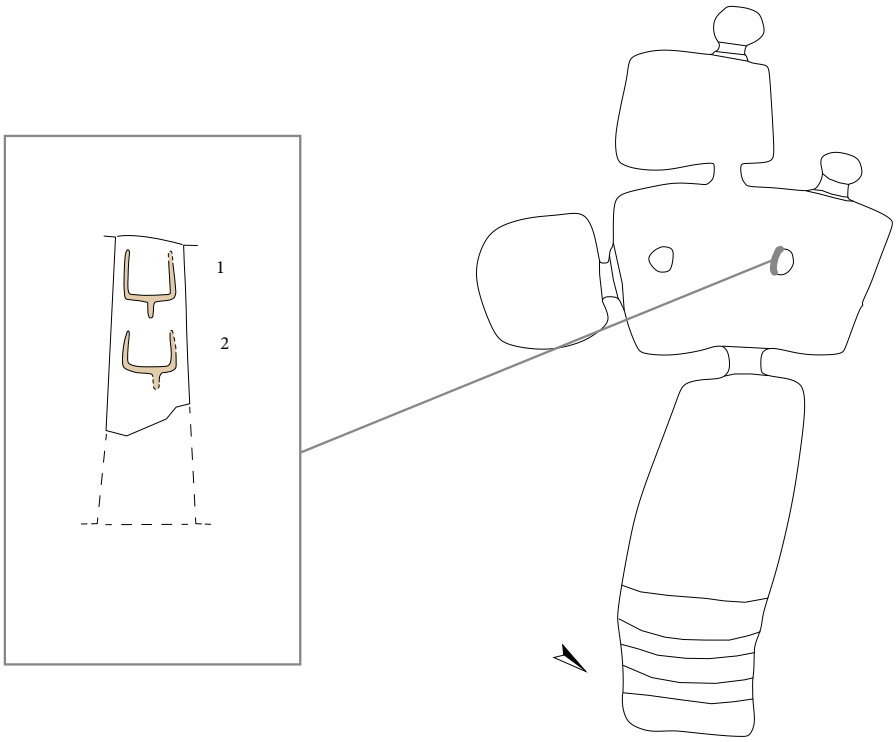


fig. 2.60 - Tomb XXbis layout of the Necropolis of Anghelu Ruju

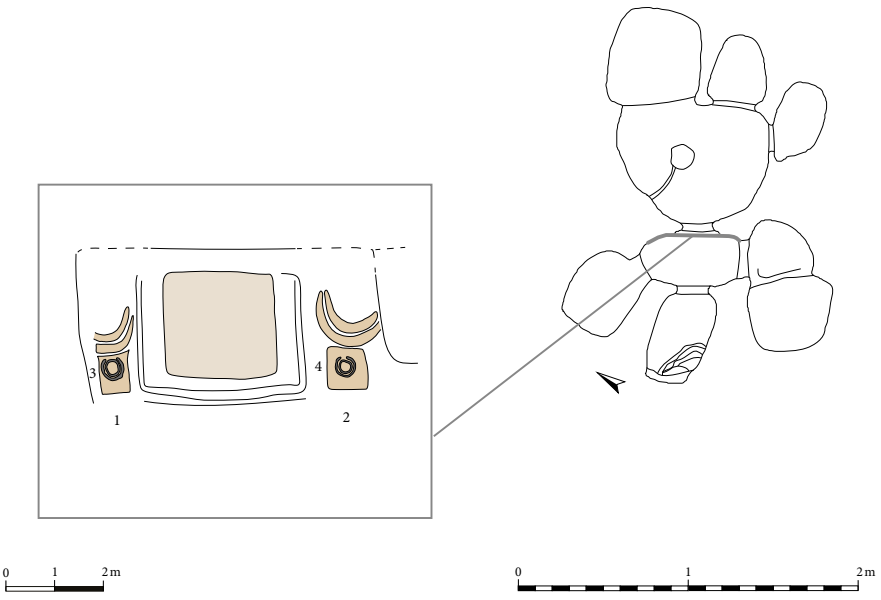


fig. 2.61 - Tomb XXVIII of the Necropolis of Anghelu Ruju

002.
NECROPOLIS OF PUTTU CODINU

Villanova Monteleone

S.S. 292, 07019 Villanova Monteleone SS

FGP9+QH Villanova Monteleone, Sassari Province

The area surrounding the necropolis is characterized by reliefs with soft curvy shapes which alternate with almost flat surfaces. Tree-lined pasture prevails, with specimens of olive, downy oak, cork oak, and holm oak. The Temo, the main river flowing in this area, flows from NN-E to S at a distance of 1.15 km; the Riu de Badde Cannas crosses the south-western area and small streams flow into it, flowing to W. The nearest spring is 380 m South. Not far from the necropolis, in Puttu Codinu, there are three other *domus de janas* (Puttu Codinu b).

Giacomo Calvia first referred to the Tombs of Puttu Codinu in 1903, mentioning the artificial caves where the fantastic beings of popular legends dwelt. The scientific investigations of the site (1987-88) were directed by Giovanni Maria Demartis, who published the results in 1991.
The necropolis includes nine hypogea dug on low limestone outcrops, all of which are multi-chamber, with the exception of Tomb V, that includes two chambers. The tombs are accessed at the ground level, except for Tomb VIII that has a raised entrance 70 cm from the ground level.
Based on the study of the ceramic materials found during the excavation of the necropolis and the analysis of the motifs, the construction of the tombs is attributed to the Ozieri

fig. 2.62 - Top view of the necropolis

fig. 2.63 - General layout of the necropolis

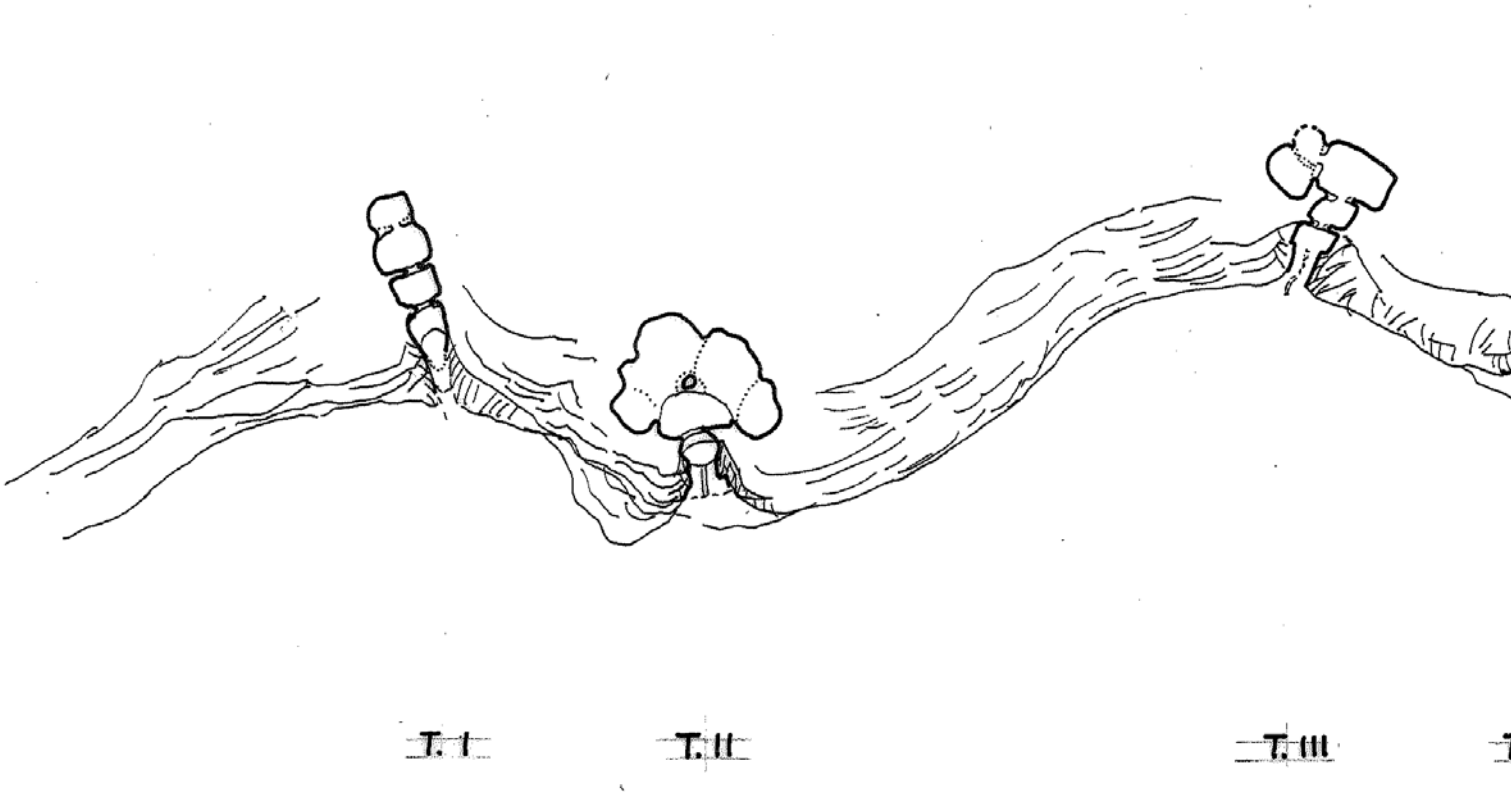


fig. 2.64 - General layout of the necropolis

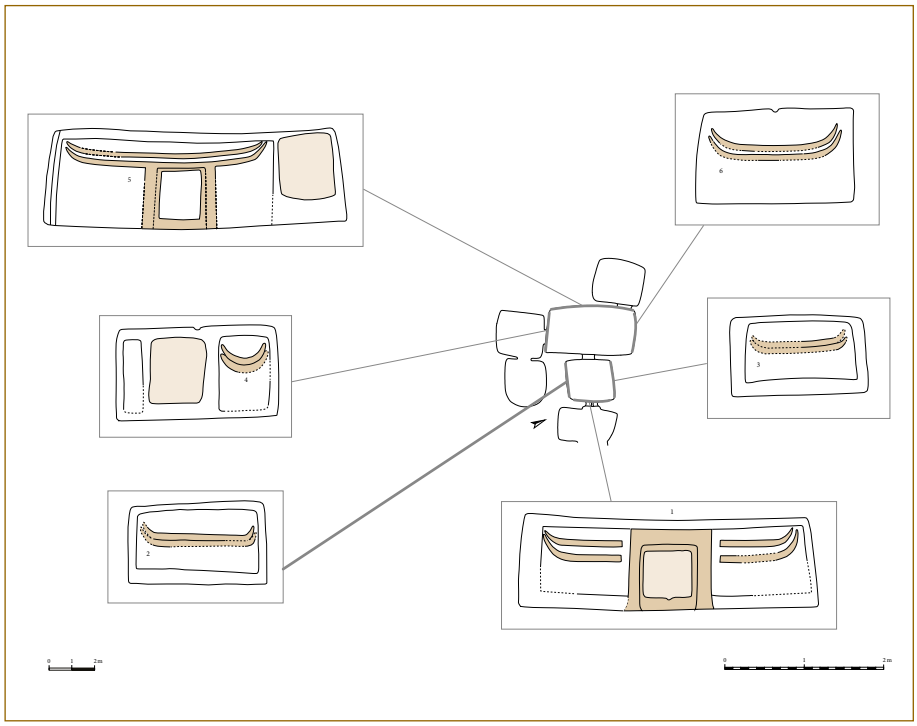
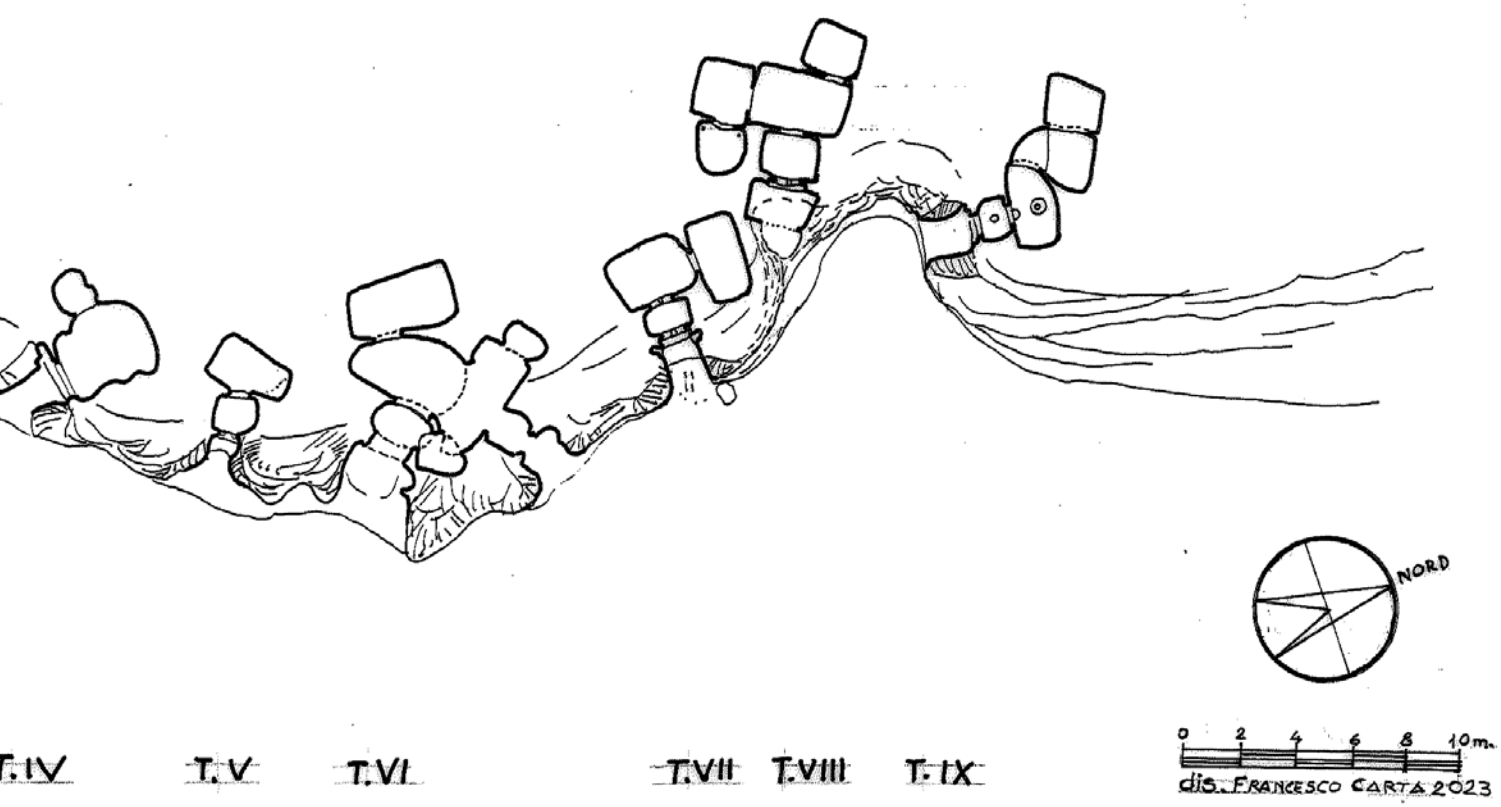


fig. 2.65 - Layout of Tomb VIII of the Necropolis

culture, having being reused until the Middle Bronze Age.

In Tomb VIII, ceramic items characteristic of the Filigosa and Abealzu cultures were found. Ceramic fragments dating back to the Bell Beaker culture were found in Tombs I, II and III, while pots and other vases document its use in the Middle Bronze Age.

Tombs were mostly T-shaped, including a short *dromos*, a pavilion, an antechamber, a main chamber arranged transversely, and one or more chambers on the sides of the latter. Unlike the others, Tomb I has a Type 2 Tanda (2021) longitudinal plan, including three rooms, which are currently without a ceiling, arranged along the longitudinal axis. All the tombs are equipped with a short dromos that leads to a pavilion.



At its back wall, an antechamber is found.
An inverted "V" engraving may be found on the outside, above the door of Tombs IV and V, conveying rainwater to the sides of the entrance.

Tomb VI may be now accessed by two doors featuring *dromos*, and it resulted from the merging of two hypogea, following the demolition of the internal walls that used to separate them. A quadrangular window, probably made in the late Roman period, is on the left of the outer wall of the tomb. The tomb included materials attesting to human presence during the Punic Age (a bronze coin with three wheat spikes, dating from 241-238 BCE) and Roman Age (a fragment of a black painted cup "Bell Beaker" from the second century BCE). The latter materials are to be related to the nearby Punic town of Sa Tanca 'e sa Mura, where materials dating back to the late Republican Age were unearthed. Inside Tomb VII, there are two small proto-anthropomorphic menhirs with a flat-convex section and a slab with a finely worked flat surface.

Tomb VIII features architectural and cultural decorations both in the antechamber and in the main room.
In the chamber of Tomb IX, in a central position, there is a circular embossed hearth with a lowered inner circle and a small central cup-and-ring stone. The step found in the same chamber at the foot of the entrance door, given the small height difference, is to be considered symbolic-decorative.
Tombs VI and VII preserve some cup-and-ring stones carved on the floor of the antechamber, also found in Tomb IX on the walls of the *dromos* and in other sections of the rock.
The represented architectural elements include: the pillar of Tomb II; the pitched ceiling of the chamber and the shed ceiling of the main chamber of Tomb V; the beams engraved in the chamber and antechamber ceilings of Tomb VIII.

Tomb VIII

Tomb VIII has the most refined motifs of the entire complex and is located in the northern part of the necropolis. The hypogeum consists of six chambers, which may be accessed to through a short *dromos* (1.20 m), facing the east, slightly raised from the ground, which leads to a quadrangular pavilion without a ceiling. On the back wall of the pavilion, a rectangular door features a recess to house a stone panel. The threshold

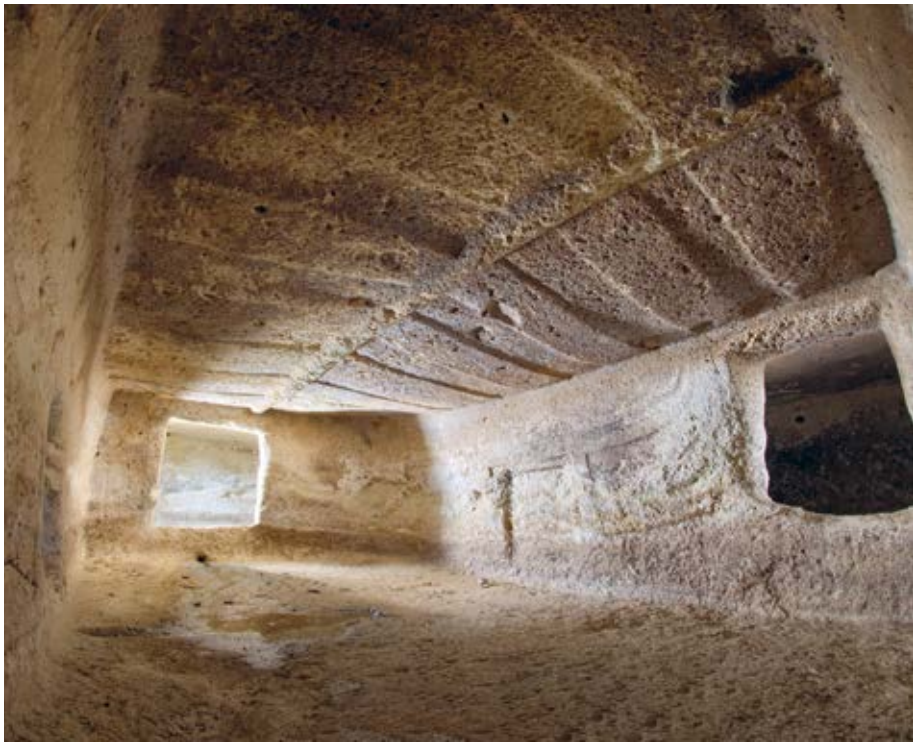


fig. 2.66 - Ceiling detail of Tomb VIII

fig. 2.67 - Ceiling detail of Tomb VIII

is raised from the pavilion floor and crossed by a gutter.

The antechamber has a sub-squared shape; in the flat ceiling, the roof of the semi-circular hut is carved with a lunette, featuring four parallel beams running along the longitudinal direction. In the back wall, along the ceiling, there are two flat bands separated by a horizontal engraving. On the entrance wall, on the sides of the door, two Type XII Tanda (2021) framed full-wall horn-shaped motifs are found. Despite being deteriorated, the side walls still feature a flat frame that embraces a lowered rectangular space within which double flat-relief Type VIII Tanda (2021) crescent-shaped horns were carved.

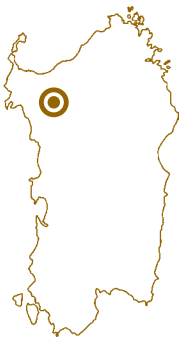
The main rectangular chamber is arranged in a T, transversely to the longer axis. It features the representation of a double pitched roof on an almost flat, slightly convex ceiling, to replicate the deformation of the beams caused by the stones that stopped the water from leaking through the roof into prehistoric huts, explains Demartis (1991). The ridge beam is markedly embossed with convex relief, with seven beams per part. Cantons, horizontal bands along the ceiling, bases and frames are carved on the walls and decorate the recessed door.

On the right wall, inside a lowered mirrored box, double crescent-shaped horns are carved, while on the left wall, inside a frame that covers the entire wall, a slightly eccentric door can be seen and, on its sides, two boxes of different sizes. In the one to the right of the door two Type VIII Tanda (2021) horn-shaped elements are carved in a vertical sequence. The door leads to a square room that, in turn, leads to a quadrangular room to the left, with rounded corners, concave walls, and a flat ceiling.
On the back wall of the main cell, a false door is highlighted by a raised frame, a double Type VIII curved horn-shaped motif on top of it, jutting out of the false door lintel. Near the North corner of the chamber (to the right of the false door), a door leads to a four-slided room with concave walls and a flat ceiling.

The decorations in the tomb were made during a later renovation of the hypogeum and after the excavation of the additional rooms, but both phases pertain to the Ozieri culture.

003.
NECROPOLIS OF MONTE SISERI ("S'INCANTU")

Putifigari



07040 Putifigari SS

JC4H+HX Putifigari, Sassari Province

fig. 2.68 - Top view of the necropolis

At the moment, the necropolis includes three hypogea excavated in the pink tuff along the slight slope of the northern slope of Monte Siseri, which slopes gently towards the river below. It is located in a charming landscape, in a wide valley towered by two steep hills covered by Mediterranean scrub and rocky outcrops.

The bedrock where the *domus de janas* were excavated, is carved by a series of grooves used to drain rainwater; in addition, numerous cups carved in the rock testify to the presence of funerary rituals performed also outside the hypogea.

The tombs include several rooms: an entrance corridor (*dromos*), an antechamber cell, and a main chamber leading to secondary burial rooms. Tomb 2 is T-shaped while Tomb 3 develops longitudinally.

Hypogea include decorative and symbolic elements, such as lesenes and floor cup-and-ring stones.

Based on the data collected during the excavation of Tomb 1 and the analysis of the structures and representations, the construction of the

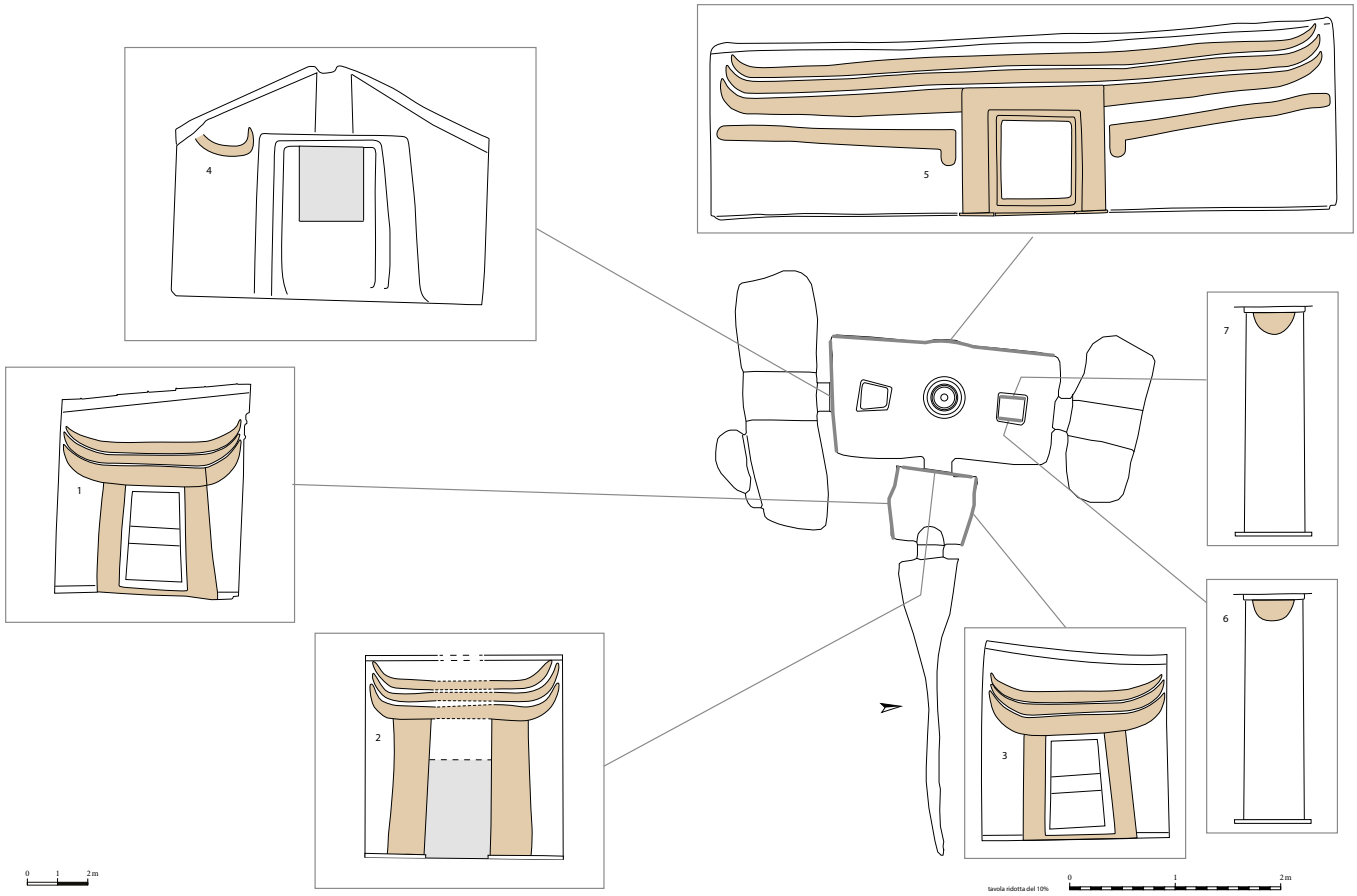


fig. 2.69 - General layout of Tomb I, i.e. the Tomb of S'Incantu – Putifigari

necropolis is attributed to the Ozieri culture.

At 600-700 m away, in the S'Ena Cocciada area, a hypogeum has been identified, featuring painted and sculpted figures of lesser importance, likely to belong to a similar culture and time.

Tomb of "S'Incantu"

Tomb 1, known as the "Tomba dell'architettura dipinta" ("Tomb of Painted Architecture") or "S'Incantu" to pay tribute to its beauty, is the largest and most important of the necropolis and, one of the most famous and interesting hypogea of the Prehistory of Sardinia, considering its valuable representation of magical-religious elements and architectural motifs.

fig. 2.70 - Inside detail of Tomb I

fig. 2.71 - False door detail of Tomb I

It was studied in 1987 and excavated in 1989 by Demartis, who published the results of the excavations in 1991. Four layers were identified, the most ancient of which was hiding archaeological materials connected to the Ozieri culture and the early stages of the Copper Age.

The tomb is T-shaped (Type IV, Tanda 2021). Considering a central axis connecting the entrances, the main rectangular chamber is smaller and arranged transversely with reference to the quadrangular antechamber.
The tomb includes a dromos, a pavilion, an antechamber, a main chamber, and two secondary chambers. The 6.85 m-long dromos faces East and gradually widens towards the entrance, leading to a pavilion decorated with a band of architectural reliefs and red paintings. The room leads to a trapezoidal antechamber. Its floor is one meter lower and features a semi-cylindrical step to facilitate access to it. The antechamber also shows architectural relief and the ceiling was originally decorated with the representation of a double pitched roof, preserved only in its side sections. On the walls, opposite to each other, there are two carved motifs consisting of a false rectangular door divided into two squares and a triple horn-shaped motif on top of it. Triple horn-shaped motifs are also found above the door leading to the main room. All decorations show traces of red ocher.
The main rectangular room 3.20 m; width. 5.80/6 m; height 2.22 m) features two pillars and a complex decorative system. The ceiling is carved with the representation of a pitched roof, central and cross beams: the composition the reliefs are decorated in black (central and cross beams), while the negative spaces were decorated in red. The floor is lower than the antechamber and a ritual hearth is found in the middle of the room (diameter: 1 m) consisting of four concentric lowered rings

fig. 2.72 - Antechamber detail of Tomb I, i.e. the Tomb of S'Incantu

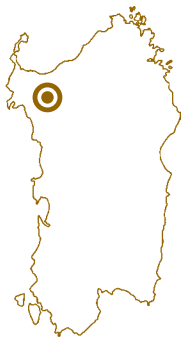
and a central cup. The back wall is fully covered by a complex pattern consisting of a triple horn-shaped motif on top of a false central door frames by a double recess. On the short sides of the room, two doors decorated with raised frames lead to two sub-rectangular secondary rooms; the floor is divided into two section by a central partition.

The reproduction of architectural elements typical of the dwelling of the living include the double pitched ceiling, the pillars, and the hearth. The double pitched ceiling, including a representation of the central and the Type I (Tanda 2015) side beams, is found in twenty-three hypogea.

The tomb shows the final stages of the development process of the bull-shaped protome motif, highlighting the progressive estrangement from a naturalistic representation of the beast towards a gradual streamlining and abstraction of its shape.
A the same time of this development, the greater value of the entrance doors is observed. In the antechamber, the horns merge with the entrance panel leading to the main chamber, thus represents a significant stage: the symbolized panel is replaced by the head of the bull protome. According to Tanda (2021), since then, the horn-decorated door has assumed a sacred value and the introduction of the deceased through "the divine animal" acquired a magical-ritual, initiatory, and propitiatory value.
The symbolic process is completed by the motif carved onto the back wall of the main chamber. The panel turns into a false door and is no longer accessible. Therefore, the motif of the horns merged with the false door acquired a symbolic value, where access is no longer allowed to the body of the deceased, but only to the spirit.

004.
ARCHAEOLOGICAL COMPLEX OF MONTE BARANTA

Olmedo



Strada Comunale Olmedo-Uri, 07040 Olmedo SS

J9JW+JW Olmedo, Sassari Province

fig. 2.73 - Top view of Monte Baranta

Being part of an evocative landscape, on the eastern edge of the homonymous Trachytic plateau, the extreme southern offshoot of the Padru Salari plateau, the complex is one of the most monumental and significant examples of the final stages of Sardinian Prehistory. It is characterized by a defensive system consisting of a wall, that protects a village of huts, and a tower-fence built on the cliff edge. Outside the wall, a sacred area includes a menhir and a megalithic circle. In addition to the sacred area, in the Mediterranean scrub, clear evidence of other buildings can be seen on the ground. Ercole Contu first described the wall and the tower-fence in 1962. The excavations conducted by Alberto Moravetti (1979-1981, 2012-2014), resumed between 2012 and -2014 and helped define it as a fortified settlement connected to the Eneolithic *facies* of Monte Claro (mid-3rd millennium BCE).

The wall surrounds the "open" portion of the plateau, protected on three sides by a steep cliff, and extends North-to-South on a straight line, except for the first southern stretch, where it folds inwards. It consists of two pebble-filled walls: the outer section consists of blocks, while the inner section of smaller stones arranged in rows. The entrance is located near the N end and includes a rectangular corridor that crosses the wall. At the end of the corridor, on the right of the entrance, a staircase jutting out of the internal wall, probably used to reach the walkway on top of the wall that is no longer available.

Inside the walls, six huts have been identified, with a straight wall profile made with blocks arranged in a single row. The ceiling and the roof, of which no trace remains, were made of perishable material.

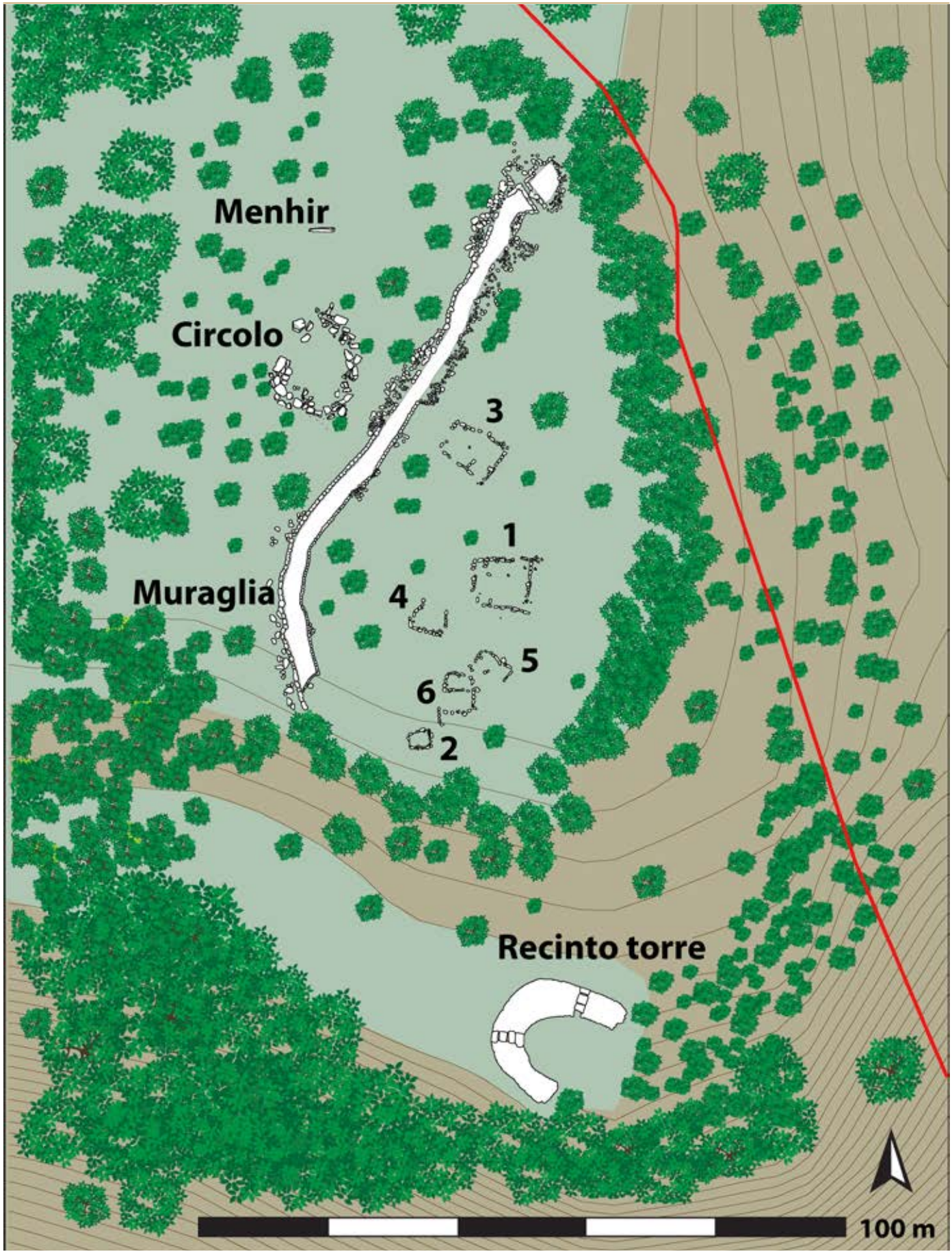


fig. 2.74 - General layout

The quadrangular or trapezoidal huts include remains of paved or cobbled floors and partition walls which divide the indoor space into several rooms. On the floor, often a small quadrangular pit (50-60 cm side) framed by stones and used as a hearth.
The menhir has a polygonal section and is tapered and slanting at the upper end, lying upside down on the ground. It features a cross rib still to be shaped and a recess near the base, possible to operate it. The menhir was likely to have never been erected: it rests on a perfectly smooth surface where a box engraved on the rock was found, suggesting to be the cavity designed to host it.
The circle, located 13 m from the menhir, has a sub-circular shape and consists of at least thirty large slabs and a large number of small and medium-sized pebbles; a gap of about 4 m opens in the NW section.
The tower-fence, located about 60 m SE of the wall, at a lower altitude, on the southern edge of the plateau, features a U-shaped layout that surrounds an area of 191.30 m². The structure ends reach the edge of the plateau; the East side includes no walls as it is naturally protected by the cliff. The external wall is made of large irregularly shaped blocks and arranged in rows, while the internal walls are made of smaller blocks and arranged in horizontal rows. The two partitions are filled with small pebbles. The inner courtyard is accessed through two entrances, one to the North and one to the West, consisting of large lintels on top of two rectangular openings, which lead to slab-covered corridors. Inside the courtyard, on the SW wall, there is a staircase that leads to the top of the monument. In the NW wall, there is a 1.80 m niche raised from the floor. The courtyard floor consists of a smoothed rock outcrop that was leveled by adding pebbles.
The grandeur of the structures and the presence of a major ritual space testify to the great importance of the site for the surrounding region. Other settlements close to the site (Tanca Baranca, Padru Salari) most likely referred to Monte Baranta for both defense and worship activities.
At the current state of knowledge, the presence of a sacred circle that seems to have never been fully used, the large menhir still to be erected, and the unfinished blocks and slabs scattered at the edge of the complex, suggest that the settlement was abandoned by its inhabitants even before the construction phase was completed.
This complex provides significant

fig. 2.75 a-b - Entrance details

fig. 2.76 - Wall facing detail

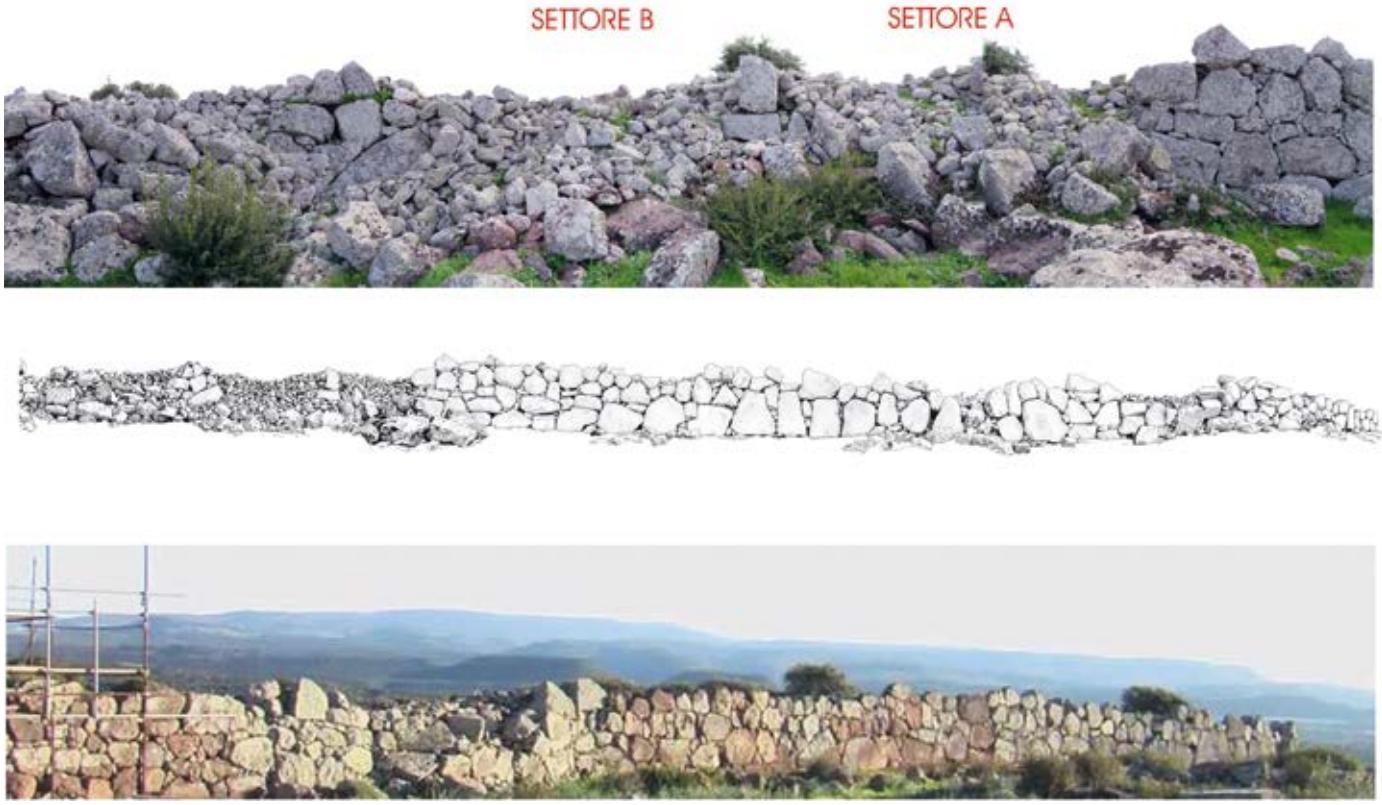


fig. 2.77 - From above: collapsed portions of the construction site; Survey; Ongoing wall restorations

evidence of the breakdown of the social-economic structure that had characterized the previous Neolithic phase in Sardinia, when, to date, no defensive structures (walls, trenches, embankments, etc.) have been documented. This need for protection is common to other parts of the Mediterranean, in the Aegean Sea and, in particular, in the Iberian Peninsula and in France. The defensive walls found, above all, in central-northern Sardinia, are indicative of instability and a sense of insecurity that sometimes pushed the Monte Claro Eneolithic communities to settle on top of hills and reinforce natural defenses with mighty buildings. This strategic vision of control of the territory anticipates, with different architectural solutions and defensive concepts, the first Nuragic monuments such as the Proto-Nuragic ones (built between the end of the Early Bronze Age and the beginning of the Middle Bronze Age) and then became a common trait of the whole Nuragic Age. The fortified system requires a high place at the ends of plains that overlook valleys, where the settlement area is bordered by the steep hill, and therefore by the defensive walls behind the more exposed, weaker side.

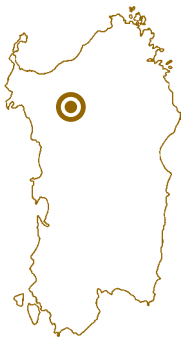
Very few pottery and stone materials connected to the Monte Claro culture were found during the excavation surveys conducted by Moravetti in the ritual area. The presence of monoliths seems to testify to the use postulated for this type of monument. During the excavations in the Sa Figu-Ittiri area, conducted by Paolo Melis in 2003, a megalithic circle connected to the Monte Claro culture was found. The most significant analogies with the sacred area of Monte Baranta may be found, in particular, in the Biriai-Oliena settlement, published by Editta Castaldi in 1999: several structures on Monte Claro include a circle of menhirs, two of which are still emplaced in the ground. The sacred area of Monte Baranta could play the same role suggested by Castaldi for the Birai-Oliena area: a sort of astronomical, solar and lunar observatory, to track the passing of time, allowing to record the variation of the seasons for farming. Monte Baranta is widely present in the European archaeological literature, thus confirming the importance of the monumental complex in the Sardinian and Mediterranean Eneolithic context.

fig. 2.78 - Wall restoration works

fig. 2.79 - Menhir detail

005.
NECROPOLIS OF MESU 'E MONTES

Ossi



07045 Ossi SS

JJH9+XC Ossi, Sassari Provence

The necropolis was excavated on the southern slopes of Monte Mamas, in a limestone wall that runs along the EW axis; only Tombs IV, XV, XVa were excavated on low limestone outcrops at the foot of the ridge.
Nineteen multi-chamber *domus de janas* are reported and labeled using Roman numerals. Their entrances overlook the narrow valley that separates Monte Mamas from the overlooking Monte Mannu, crossed by an ancient grassy trail that leads to the foot of the cliff: a suggestive panoramic view of the entire site may be enjoyed while walking the path, where the carved stele-doors of the rock-cut façade Tombs III and XVI stand out. The presence of rock-cut façade tombs testifies to the transformation and use of more ancient hypogea, during the Bronze Age.

fig. 2.80 - Top view of the necropolis

The first reference to the necropolis was made by Ercole Contu, who found seven hypogea in 1968. In 1975, Castaldi analyzed the rock-cut façade tombs. In 1985, Giovanni Maria Demartis and Vanna Canalis excavated and published data relating to Tomb II. Later on, Pina Maria Derudas identified the then-unknown Tombs IV and XVIII in her 2000 and 2004 papers.
The hypogea have different plans. Tombs I and II have similar plans and decorative layout: both consist of twelve rooms arranged according to a T-shaped scheme, featuring

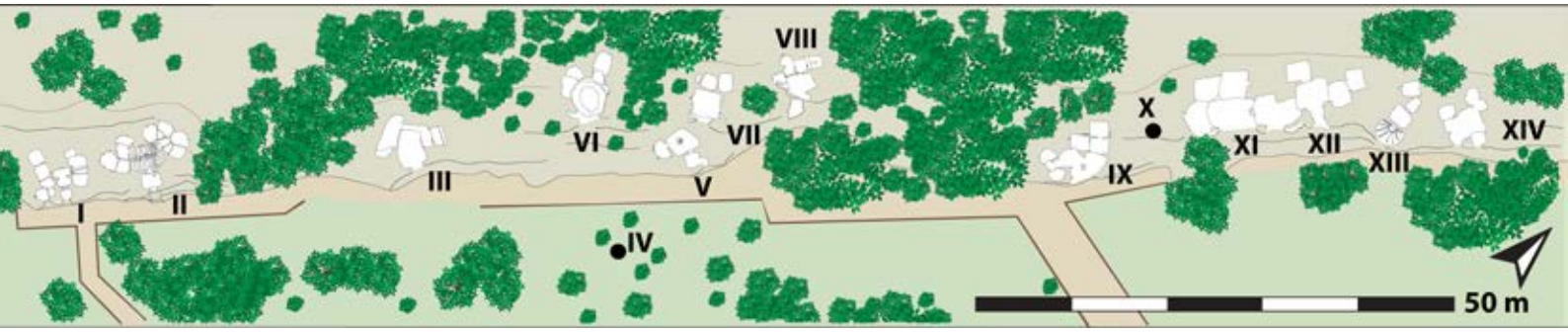


fig. 2.81 - General layout

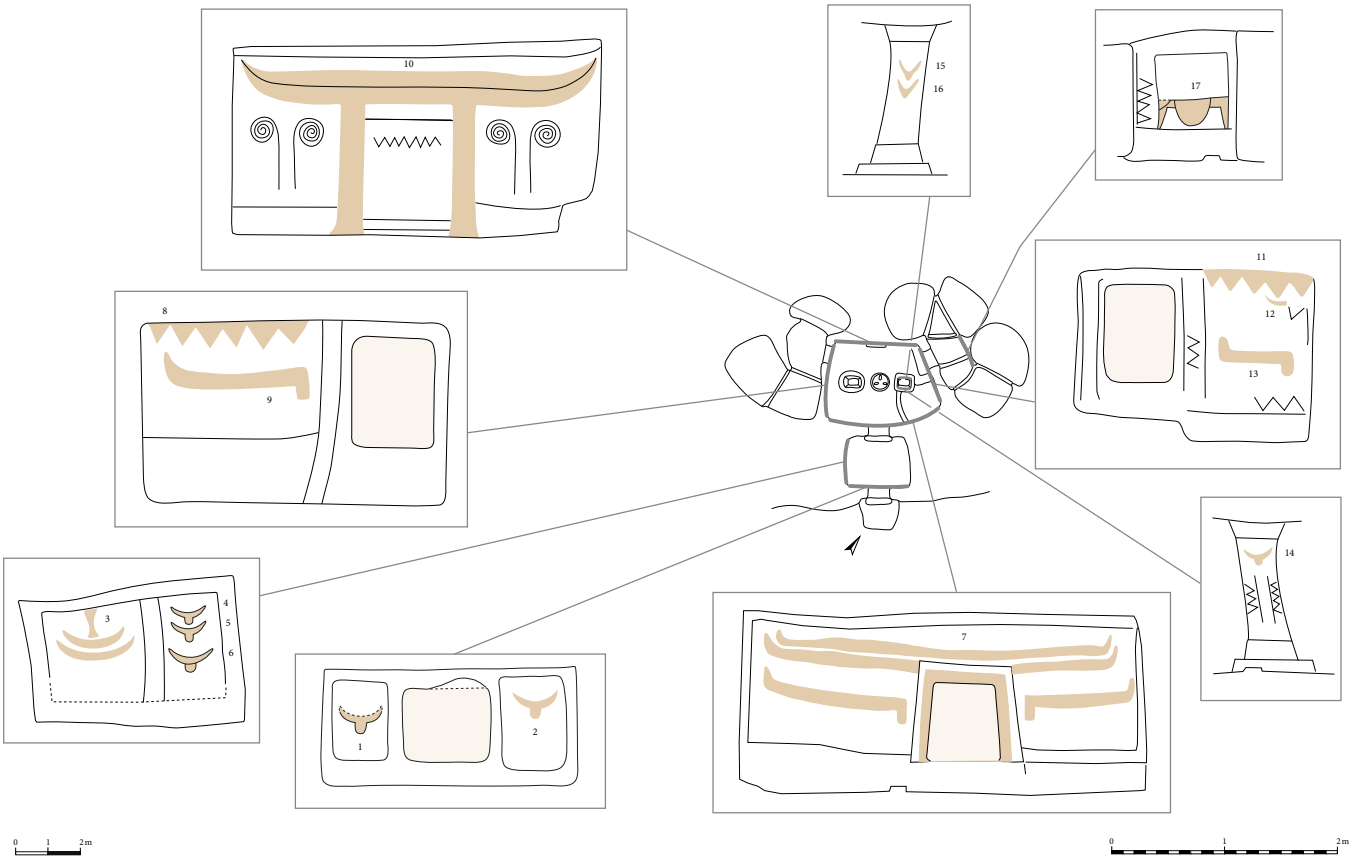
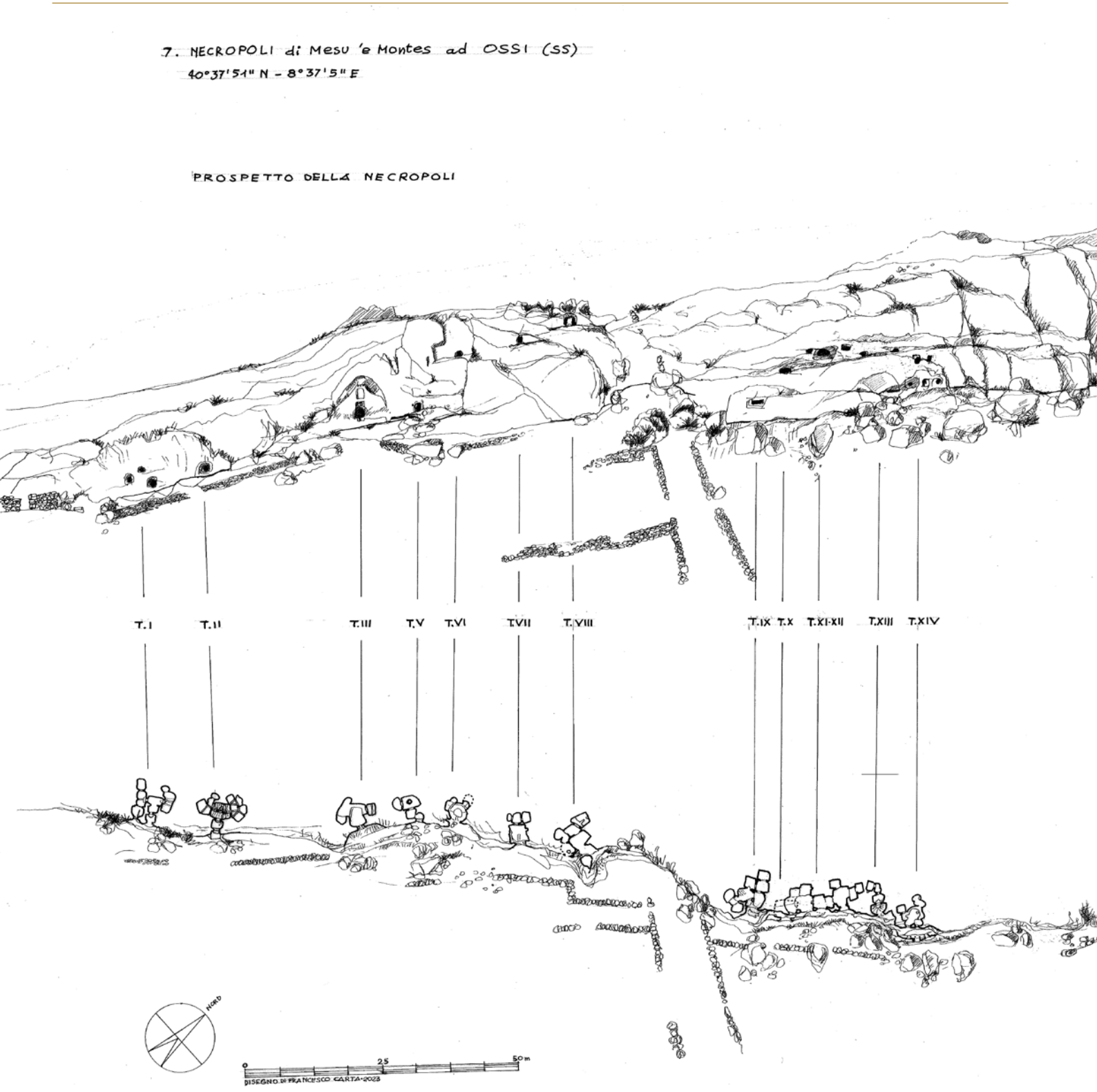


fig. 2.82 _ Layout of Tomb II

open chambers on the transverse axis of the second room in Tomb II and the third room in Tomb I (separated from the second room only by side walls). In both cases, the layout was redesigned over time. Tomb XIII has a longitudinal development along an oblique axis consisting of four rooms. Tomb V develops laterally: a small vestibule leads into the corridor that on one side, adjacent to two rooms and a third room with a side opening leading to the larger chamber.
As regards the artistic-symbolic aspects, in the back wall of the main chambers of Tombs I and II, a false door was carved; the door of Tomb I has a trapezoidal shape, with a longer side at the base and framed by jambs and a lintel. At its base, a slightly raised step is carved.
Architectural and decorative motifs of exceptional value are found both in the well-known Tomb II and in Tomb I, but there are also architectural elements in Tombs V, VIII, XIII, XVI, all replicating elements of the huts "of the living". Specifically, in Tombs II, VIII, XIII and XVI, there are representations of ceilings, sometimes realistically carved on sloping surfaces or in flat relief or engraving. The pitched ceiling, carved on a tilted surface with a ridge beam that is transversal with respect to the room axis, is found in the three coaxial rooms of Tomb XVI, while in Tomb VIII the tilted surface has no trabeation.
On the horizontal ceiling of Tomb II, the beams of a two-slope roof was engraved schematically. The roof type featuring radial beams is represented in the antechamber of Tomb XIII.
In Tombs I, II, IX, and XIII, there is a slightly raised plinth at the base of the walls reminding the stone plinth on which the hut wooden structure of the inner floors rested, represented by a vertical semi-relief motif (lesenes) that marks the surface of the walls. They are often found in the corners of the walls, rarely even in the center (Tomb II), in which case they frame lowered panels.
Tomb V has a single pillar, ornamented and thinned at the midpoint, in the center of the main room.

Tomb II

The tomb is located in the western sector of the necropolis. It consists of twelve rooms, arranged according to a T-shaped Type IV Tanda (2021) scheme and complemented by open chambers on the transversal axis of the second room. It is well known in archaeological literature since its contains as many



as seventeen carved motifs which fall into six figurative types: II, III, VI, VII, IX, and XIII Tanda (2021). The excavation did not uncover any fragment of the Ozieri culture, that the excavation of the hypogeum and the two enlargements are connected to. Excavations uncovered finds relating to the last enlargement (Early Copper Age) and materials relating to the Monte Claro and Bonnanaro cultures, when the last reuse of the tomb took place. The entrance to the hypogeum is preceded by a small *dromos* and the access door faces SW. The door has no recess, so the slab that was originally designed to seal the tomb rested directly on the rock: a rectangular recess is dug in the floor of the corridor to house it.

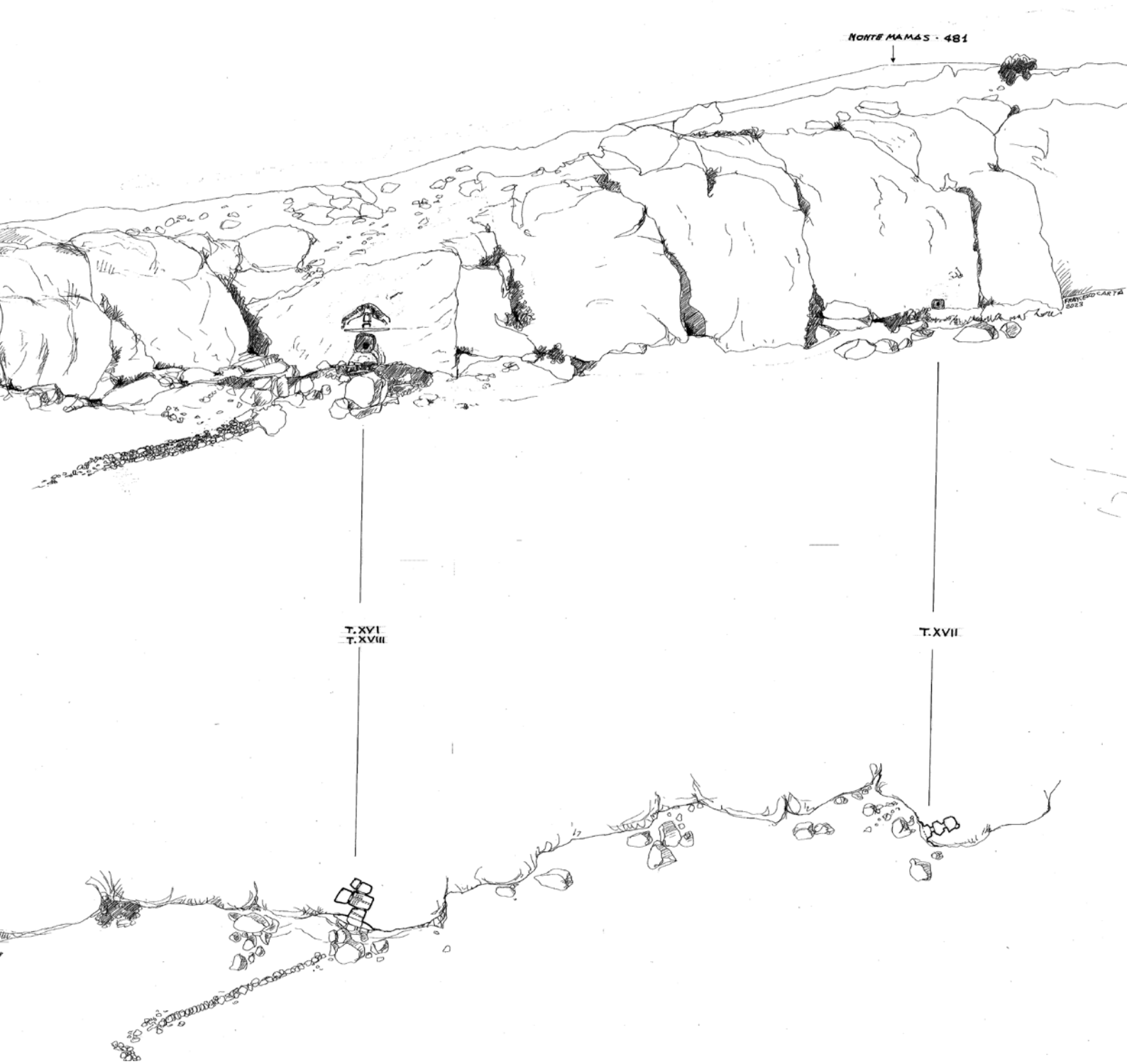


fig. 2.83 - General layout of the necropolis

The first room to be accessed is the trapezoidal antechamber, the walls of which start from lowered panels separated by lesenes and frame decorative motifs. On the entrance wall, to the left of the entrance, a protome with crescent-shaped horns and a distinct head is carved, having a rounded snout; a similar representation can still be seen on the opposite wall. On the western wall, there are three crescent-shaped horn protomes arranged vertically and of decreasing size from the bottom to the top; on the right, two crescent-shaped horns are topped by a hourglass motif. On the eastern wall, V's are engraved close to each other to trace a horizontal zig-zag pattern. The hatch leading to the chamber is on the same axis as the door: this

fig. 2.84 - Hourglass motif detail of Tomb II

trapezoidal room is the largest of the hypogeum; it had a ritual function and served as a passageway leading to secondary rooms. The entrance wall features two large horns on top of a door, one on each wall, on both sides: under the ceiling, a band of pseudo-relief zig-zag pattern on top of them. In the back wall, a false door lies on a raised step: in the center, a row of engraved *chevrons*; at the top, the jambs merge with two large wing-resembling horns. On the sides are two spiral-shaped motifs. On the right wall featuring a plinth and lesenes, the *chevrons*, that is, dog-tooth marks, cantons merged with a round horn-shaped motif, a Z-shaped semi-horn in the center; the same motifs are replicated on the opposite side. Traces of red paint can be recognized. The ceiling bears the representation of the pitched beamed roof: the main beam rests on two pillars carved into the rock and tapered upwards, with horn-shaped motifs. At the base of the pillars, the pedestals resemble the stone base that served as an underpinning for the poles that supported the trabeation in the huts of the living.
It is a unique structure in the necropolis, but also among the sixty *domus de janas* found in the territory, the circular hearth, embraced by a ring marked with three elliptical sketches arranged in a triangle, carved in the center of the floor of the main chamber.

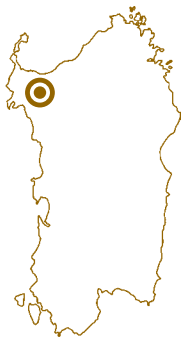
fig. 2.85 _ Partial view of Tomb II

fig. 2.86 - Motif detail of Tomb I of Mesu 'e Montes

The entrances to two lateral groups of rooms are on the short sides of this chamber: four to the West and five to the East. On the East wall of the main chamber, there is an entrance to an elevated cell that serves as an internal vestibule for three intercommunicating rooms arranged to the West, and for two other secondary rooms excavated to the East. On the West side, also a vestibule can be found, leading to a larger room located on the right and two consecutive cells on the left.

006.
SANCTUARY OF MONTE D'ACCODDI

Sassari



Strada Statale 131 - Km 222,200 - 07100 SS

QCRX+7H Sassari, Sassari Province

It is located on a low hill in a limestone plain, 75 meters above sea level, a few hundred meters from Rio di Ottava. The sanctuary is unique in Sardinia and the western Mediterranean, and extraordinarily important: it is the most representative complex of Sardinian Prehistory because it has uncovered finds from all the cultures that took place between the Neolithic and the Bronze Ages.

A short distance away are the hypogeal Necropolis of Monte d'Accoddi (500 meters to the WNW), Ponte Secco (670 meters to the East), Marinaru (670 meters to the N), Sant'Ambrogio (1400 meters to the S), Li Lioni (1700 meters to the WNW) and Su Crucifissu Mannu (2350 meters to the NNW), as well as the dolmen and menhirs of Frades Mereos (700 meters to the SSW, beyond the Rio d'Ottava).

The homonymous relief that hid the structures was damaged during World War II. It was Minister Segni, being the owner of the land adjacent to the hill, who encouraged the investigations. The excavations in the site started in 1952 and were directed by Ercole Contu until 1958; then, the excavation of the complex resumed between 1979 and 1989 under the direction of Santo Tinè. The last surveys in the area date back to the 2010s.

fig. 2.87 - Top view of the Sanctuary

The archaeological area has been cleared of spontaneous vegetation, and is partly enclosed by mock privet hedges. The area is characterised by Mediterranean scrub.

The monument currently looks like a large truncated pyramid platform (approx. 37x30 m, height 10 m), built with large rough-cut limestone blocks, that can be accessed by a ramp about 42 m long, built using the same technique. The platform served as the base of a sacellum, no trace of which remains today.
The current appearance of the monument is the result of the Ozieri II phase works, which were carried out to rebuild a previous, smaller sanctuary (approx 24 x 27 m, height 5.5 m), known as the "Red Temple" due to the presence of red plaster remains on its external surfaces. The ancient sanctuary was, therefore, incorporated in the most recent one, replicating its shape in a larger version, but less accurately.

In its immediate vicinity, there are two menhirs, made of limestone and sandstone respectively, perhaps erected before the construction of

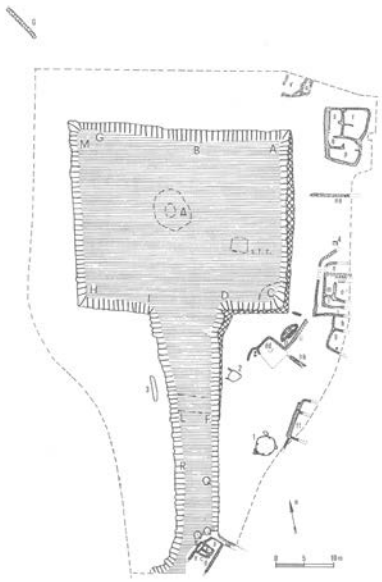


fig. 2.88 - Layout of the Sanctuary

fig. 2.89 - West view of the Sanctuary of Monte d'Accoddi

the so-called Red Temple, which suggest the sacredness of the area. A third menhir, found overturned near the ramp, seems to date back to the same period of time of the first sanctuary.
Two other stone elements from the eastern area of the complex, are located next to the ramp. They are two spheroidal stones. The largest is made of masterfully refined grayish sandstone and features a surface dotted with small cups, weighing more than a ton and just under a meter high; the second stone is smaller and made of quartzite.
The monument also includes two horizontal slabs, most likely used as altars. The largest one (3x3 m, weight: 8 tons) is a large limestone slab, decorated with cup-and-ring

fig. 2.90 - West view of the Sanctuary of Monte d'Accoddi

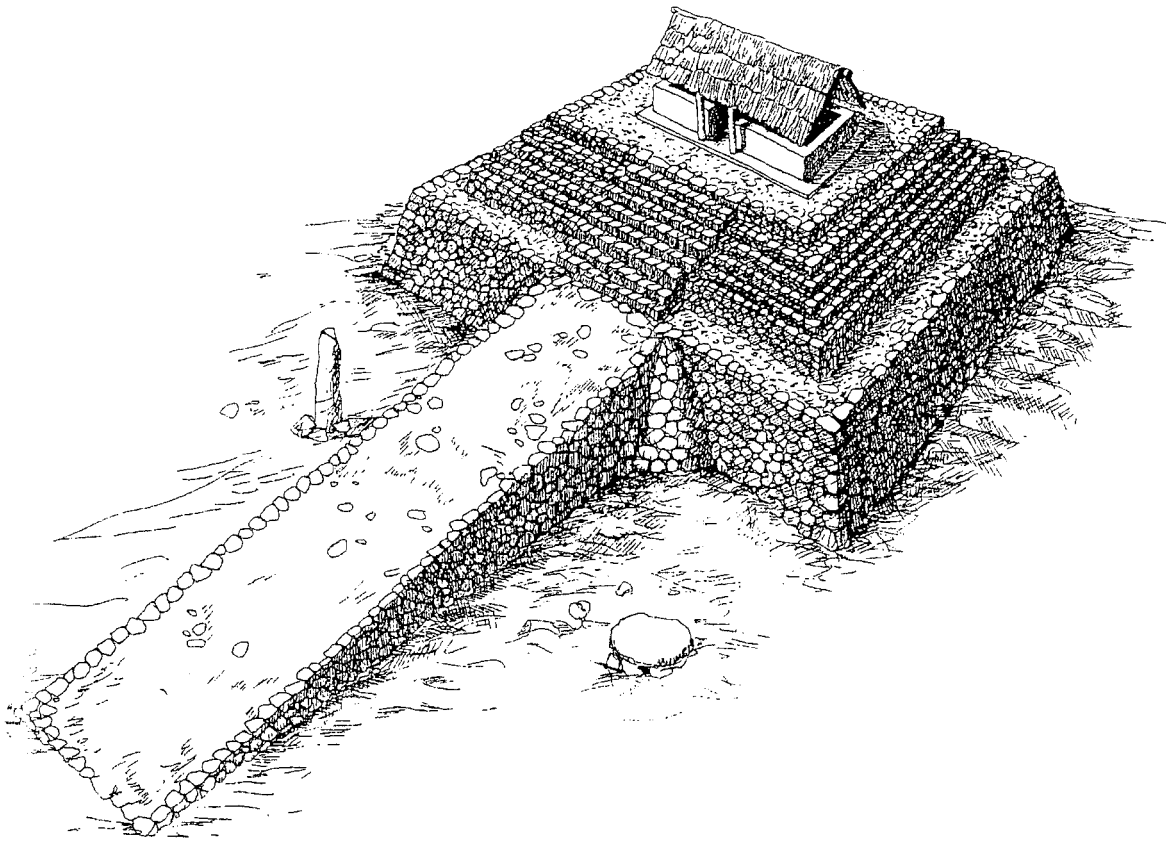


fig. 2.91 - Tentative reconstruction of the Sanctuary of Monte d'Accoddi

stones, still in its original position above a natural sinkhole, interpreted as a dolmen cover or as a table for offerings, given the presence of seven through holes, perhaps used to tie sacrificial animals. The chronology is unclear. The second altar, that is simpler and has an irregular shape, perhaps it dates back to the same time as the oldest sanctuary and was used as a sacred table. It is made of ignimbrite, a material present in outcrops at least 6 km away.

Particularly significant is the discovery in the sanctuary area of two decorated steles, today displayed at the National Museum of Sassari. The first was made of limestone and was found among the filling material for the construction of the most recent altar; it is engraved with a spiral and straight line pattern, which perhaps represents the outline of a face connected to a large worshiped statue.

The second, a copy of which can be found at the site, is made of granite and depicts a relief motif on both sides, outlining a female figure, and was most likely connected to the most recent building.

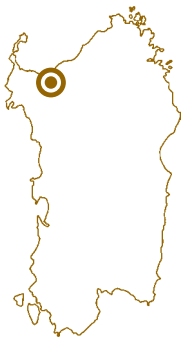
The huts of the village-sanctuary that surround the eastern side of the altar – partly dating back to the Abealzu phase – have straight walls including a plinth made of small stones where a structure of made of mud bricks or plastered reeds and branches. Poles fixed in holes on the floor supported shed or double pitched roofs. The rooms feature rectangular hearths with a raised clay edge. One of the uncovered buildings is the "Warlock's Hut" located at the North-East corner of the terrace. It is characterized by a trapezoidal layout (length 8.80/-5.70 m; width 9.50 m), in the inside divided by straight walls into five rooms covered by a shed roof.

The hut owes its name to a tip of bull horn and some bivalve shells found inside a jug. The materials show that spinning and weaving (loom weights, fusaroles) were carried out alongside subsistence activities (agriculture, breeding, hunting, fishing, mollusk harvesting), perhaps with a cultural value as well.

The history of the sanctuary clearly shows the effort of the entire community that, starting from the Ozieri I period, conceived an original ritual monument, for the first time separating rituals from funerary activities and creating a sanctuary of major interest for a vast territory. During the 3rd millennium BCE, the construction of a hut at the base of the ramp suggests the need to monitor the access to the higher building, perhaps as a result of a more stratified social complexity compared to the early phases of construction and use of the building.

007.
NECROPOLIS SU CRUCIFISSU MANNU

Porto Torres



SS 131 Carlo Felice, 07046 Porto Torres SS

RC6V+4P Porto Torres, Sassari Province

The necropolis develops over a vast limestone plateau and is located in an area that as densely populated during the prehistoric period, that seems to gravitate around the Sanctuary of Monte d'Accoddi, about 2.2 km from Su Crucifissu Mannu.

In a south-south-westerly direction, about 700 m away, the *domus de janas* of Li Lioni may be found, while to the South-West area there are, first, the hypogea of Marinaru (1.4 km) and then, almost 2.5 km away, the hypogea of Ponte Secco. To the South, about 2 km away, is

fig. 2.92 - Top view of the necropolis

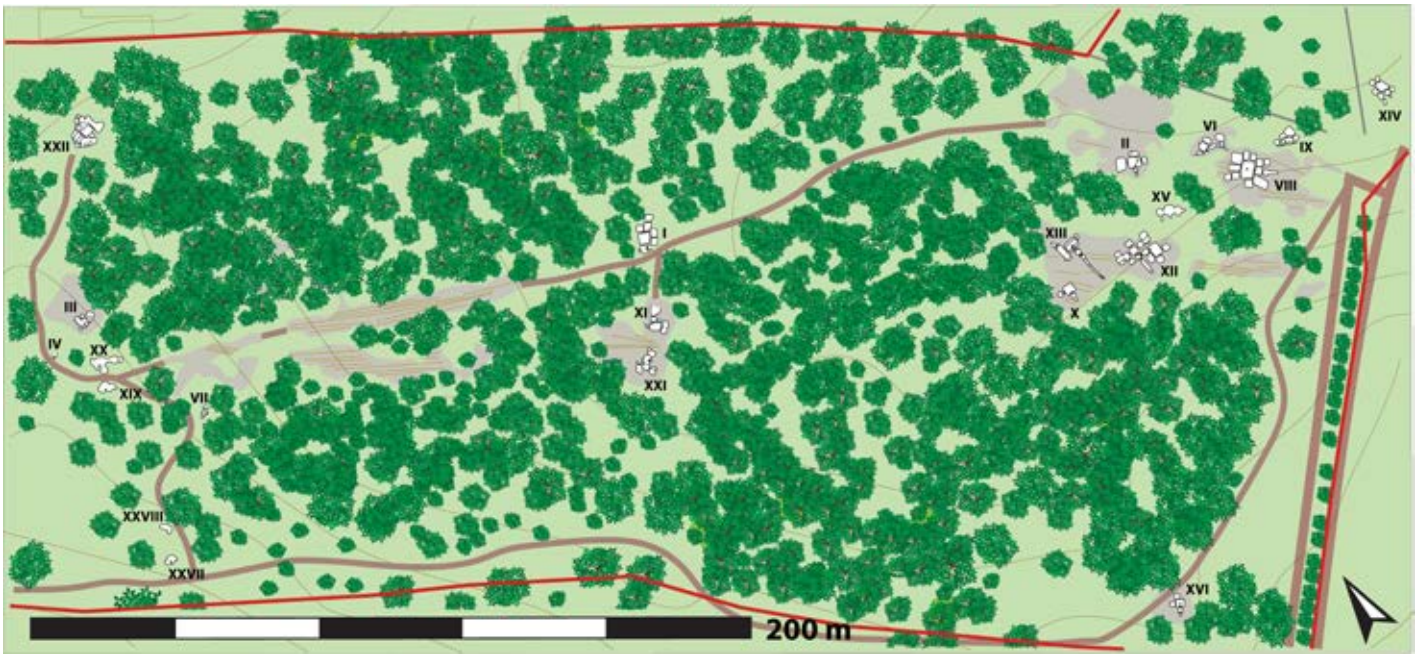


fig. 2.93 - General layout of the necropolis

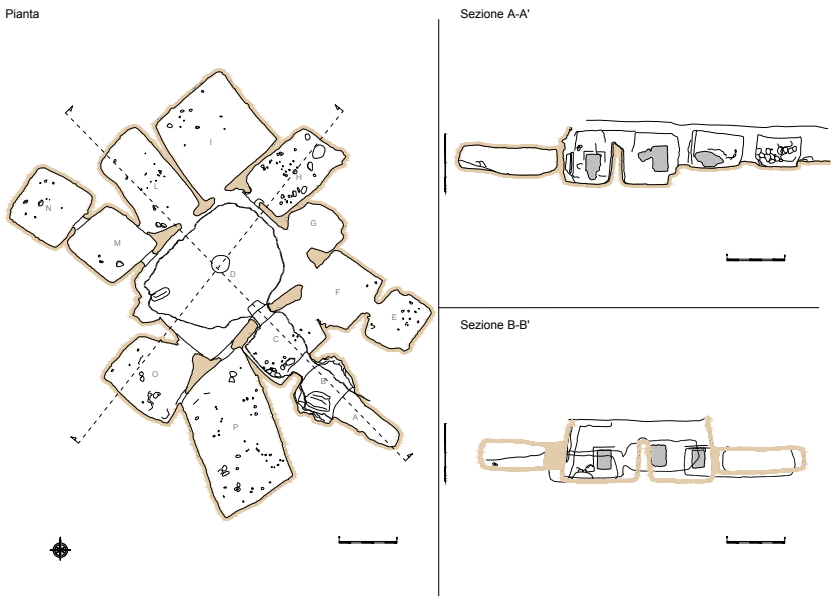


fig. 2.94 - Layout of Tomb VIII of Su Crucifissu Mannu

the Necropolis of Monte d'Accoddi.

The necropolis consists of twenty-two tombs arranged asymmetrically. There are three sectors: southern, central and northern.
It was discovered in 1956 and excavated several times. The morphological characteristics of the hypogea and the materials found inside them suggest that the first layout of the necropolis dates back to the Ozieri culture. The tombs were reused during the Eneolithic (Monte Claro and Bell Beaker cultures) and the Early Bronze Age (Bonnanaro culture), when the hypogea were last used.
Traces of attendance in the Nuragic and Roman Ages are documented.

fig. 2.95 - Top view of Tomb VIII

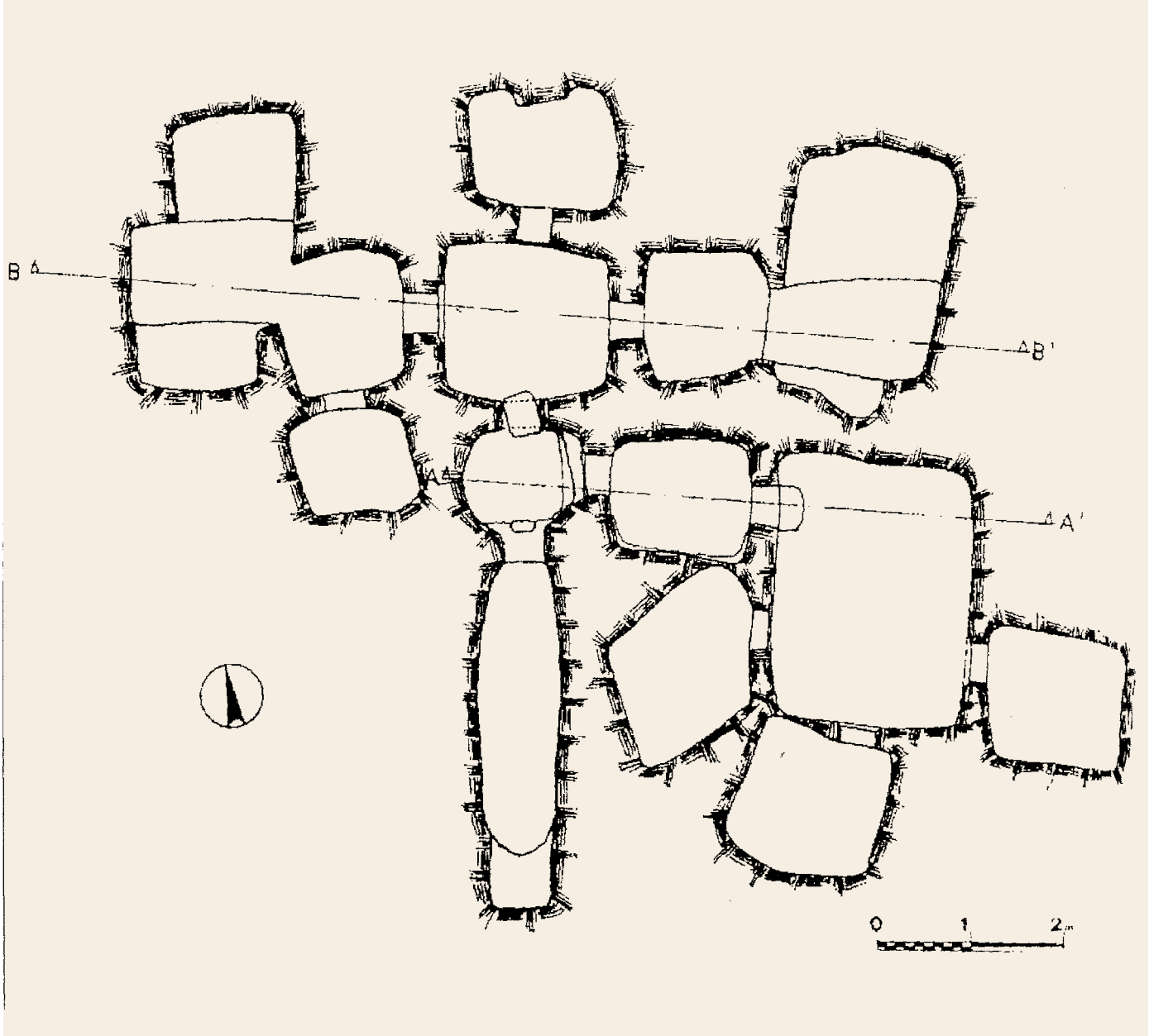


fig. 2.96 _ Layout of Tomb XII

Lastly, on the stone outcrop where the necropolis lies, deep parallel grooves were carved. They used to be Roman and medieval roads, attesting to the last presence of people in the area, that was no longer used as a burial site but as a stone quarry and a road leading to the nearby Roman town of *Turris Libisonis*.

In almost all the tombs, the original arrangement of the rooms (cross-shaped, T-shaped, centripetal arrangement) was changed by later works, which are visible in Tombs III, XXII.
The tombs that show more regular plans and wall finishing are located in the southern and central sectors of the necropolis. In the northern sector, on the other hand, the hypogea feature an uncommon arrangement of chambers, often without a clear order, with poorly finished walls and a rounded profile that included large niches at times.
The number of rooms varies in each tomb, from a minimum of one chamber (Tomb XVIII) to a maximum of fifteen (Tomb XII), with a prevalence of complex hypogea.
A feature common to almost all hypogea is the floor layout of the main chamber, that is lowered and features a step to facilitate access; ceilings are flat and slightly sloping towards the back of the room. The door panels mostly have a deep and wide, sometimes multiple (Tomb VIII) recess.
The entrances to the hypogea consist of vertical pits oriented towards the

southern quadrants, most of which face South (Tombs II, III, X, XII, XV, XVII, XIX, XXI) and SE (Tombs I, VIII, XIII, XIV). The pits lead to an antechamber or, in Tombs III, IV, XVII, XIX, XX (northern sector), in a narrow passageway. In Tombs VIII, XII and XIII, pits were "extended", forming corridors (*dromoi*) with a symbolic character.

As far as the artistic aspects are concerned, the false door of Tomb XIII (perhaps also in Tomb VI) and the bull protomes carved in Tombs VIII (double, straight-lined) and XXI (two protomes side by side, curvilinear) are symbolic decorations having a magical-religious meaning. Two hypogea show residual traces of red: in Tomb IX, above a false lintel of the main chamber and in the antechamber of Tomb XII.

There are also architectural decorations, such as load-bearing pilaster, lesenes and false relief lintels (Tombs I, II, VIII, IX, XI, XII). Some hypogea also feature pillars having a quadrangular section (Tombs VII, IX, XVI, XX, XXII), while Tomb VIII has a column.

Tomb VIII

Located in the southern sector of the necropolis, the tomb has a complex layout including twelve chambers arranged centripetally around the main chamber.
It stands out for the architectural decorations and the horn-shaped Type XIX Tanda motif (2021) carved on top of the door of a secondary chamber, as well as for the accurate finishing the walls and the entrances, all featuring one or more recesses.
The tomb is accessed through an elongated pit, probably repurposed as a corridor (*dromos*), facing SE (length 2.70 m; width 1.10/0.95 m), that leads to a roofless chamber, having a sub-quadrangular layout (length 1.60; width 1.90 m), with

fig. 2.97 - Dromos detail of Tomb XII

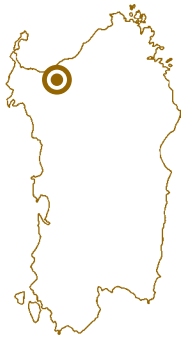
fig. 2.98 - Detail of carved protomes

side walls cluttered with stones and calcified dirt.
A large quadrangular door, still showing the remains of a recess, lead to the following room, that is, the sub-rectangular antechamber (length 1.90 m; width 2.50 m; res. h. 1.25 m).
In the back wall of the chamber, another large door featuring a triple recess and side lesenes, leads to the main chamber. It has a rectangular layout (length 3.85 m; width 5m; res. height 1.80) and just like the previous room, the ceiling of this rectangular chamber has collapsed, perhaps as a result of the Roman road running above it. The floor of the chamber is lower compared to the threshold, where a trapezoidal animal-inspired step was carved. In the middle of the room, the remains of a column can be seen. On the walls, eight doors lead to the secondary chambers.
The first quadrangular chamber is accessed by a recessed door located to the right of the main entrance, which leads to a second internal quadrangular room. The door to this cell is also fitted with recesses, and is enriched by a raised upper band and a side lesenes.

In the main cell, to the left of the entrance, another door leads to a third large trapezoidal room, the largest of the hypogeum. On the right wall of the main chamber, two doors lead to the fourth sub-quadrangular chamber, obstructed by medium-sized stones, and the fifth trapezoidal chamber. On the back wall of the main chamber, there are three additional doors leading to as many secondary rooms (Chambers VI, VII, VIII): a double horn-shaped motif carved using straight lines lies on top of the right door (Chamber VIII). Finally, the entrance to a last chamber (XI) is on the left wall of the central room. A small niche or a sort of natural cavity opens up on the same wall. The intact section of the walls of the tomb are well finished, with smooth surfaces and straight corners.

008.
DOMUS DE JANAS OF ORTO DEL BENEFICIO PARROCCHIALE

Sennori



Via Brigata Sassari, 4, 07036 Sennori SS

QHQV+HR Sennori, Sassari Province

The funerary area includes a large hypogeum consisting of two individual *domus de janas* excavated in the limestone outcrop that is today inside the old parish garden of the Church of San Basilio, located in a square in front of the Town Hall within the Town of Sennori. It has always be known and used for various purposes until recent times.

Although the hypogeum excavations did not uncovered archaeological materials, the type of layout and the presence of carved motifs on the walls, comparable with others found in better known contexts, suggest they may be associated with the Ozieri cultural context.

The first core structure consisted of a simple T-shaped *domus de janas* that was originally supposed to include an antechamber, that is now no longer clearly visible. The second core structure, on the other hand, is more complex with various chambers that open onto the main chamber and which were accessed by a *dromos* and an antechamber, which have collapsed. The two hypogea were connected by the other small dug rooms having an irregular shape.

Tomb B

It has a complex layout as a result of works executed over time, and was damaged by the quarrying activity. It is currently accessed by what remains of an irregularly shaped

fig. 2.99 - Top view of the *Domus de Janas*

fig. 2.100 - Layout of the *domus de janas*

fig. 2.101 - Hatch detail of the *Domus de Janas*

room, that enters directly into the main chamber. The quadrangular chamber has a flat ceiling, a slightly raised part carved in the rock in the middle that divides it into two spaces and leads to three secondary chambers.

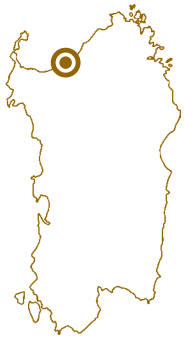
The first secondary cell is accessed by the door in the north wall of the main chamber. It has an irregular shape and it is rather extended. It leads to the additional rooms which connect the two hypogea. The NW secondary rectangular chamber also has a partition wall, that was probably the result of a deliberate choice following an enlargement of the chamber, that is asymmetrical. On the SW wall, two doors lead to two other rooms of different shapes, including a pseudo-rectangular chamber, in turn connected to the other room, that has an irregular shape.

fig. 2.102 - Detail of the horn-shaped motif

In the main chamber, there are three bucrania (Type IV, Subtypes 1-2, Tanda 2021), included in the decoration of the entire wall, divided into two panels by lesenes. The bucrania have semi-crescent-shaped horns: a large trapezoidal snout in the first two, one next to the other, and a rounded profile in the third protome.

009. ROCCIA DELL'ELEFANTE

Castelsardo



Strada Statale 134 Km 19,300, 07031 Castelsardo SS

VPQW+VF Castelsardo, Sassari Province

Roccia dell'Elefante was excavated on a block of volcanic rock, about 4 meters high, that used to be part of the rocky complex of Monte Castellazzu, from which it detached sliding halfway down a slope. Over the millennia, weathering has given it the peculiar shape to which it owes its name. The original name is *Pedra pertunta*, meaning "perforated stone". It is the most significant example of *domus de janas* dug on erratic boulders.

In 1887, Domenico Lovisato reported the complex that was first investigated by Giuseppa Tanda (1977).

Both tombs were excavated inside it at two different times: the most ancient one (Tomb II), on the upper level of the boulder, has almost disappeared due to the degradation of the rock and the excavation of the hypogeum, as confirmed by the petrographic and 3D modeling investigations conducted by the Universities of Cagliari and Florence.

Although Tomb I has been trespassed for some time and no excavation data have been made available, it is of fundamental importance from both a scientific and a monumental point of view, due to the presence of symbolic motifs of considerable interest carved in relief (bucrania, architectural elements). Tomb II has almost completely disappeared: only the remains of two rooms arranged along the NW-SE orthogonal axis are visible.

fig. 2.103 - Roccia dell'Elefante

The location of the *domus de janas* having a considerable dominance over the surrounding territory and wide visibility of the tomb itself, suggests the choice was intended to deeply characterize the ritual landscape. Tombs dug on erratic boulders, often having wide visibility and landscape view, are not very common in Sardinia, but they are relatively frequent in this part of Anglona. The morphology of the erratic boulder where the tombs are excavated is exceptional and resembles the shape of an elephant, a real natural monument.

Another *domus de janas* dug into an erratic boulder can be found just 500 m in a straight line, included in the buffer zone: the Tomb of Scala

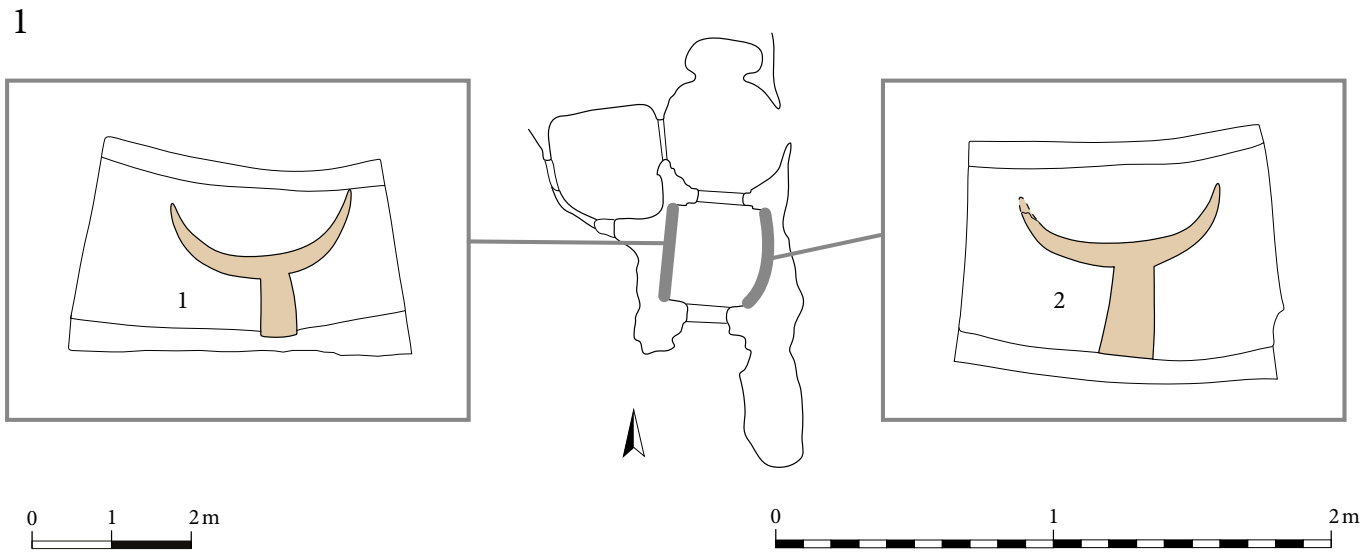


fig. 2.104 - Layout of Roccia dell'Elefante

fig. 2.105 - Details of the protomes

Coperta, featuring a sort of deep vestibule followed by a small quadrangular hallway chamber, surrounded by three chambers arranged in a T-shaped scheme.

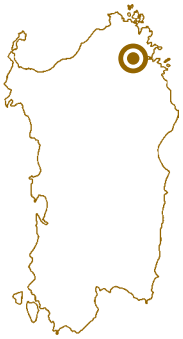
Tomb I

A *dromos (a)* of about one meter in length leads to the entrance, becoming wider to accommodate the double frame of the door. The quadrangular hatch leads to an antechamber (b): a quadrangular room (1.37x1.40 m, height 0.83 m) richly decorated with carved reliefs on the walls.

On the walls of the chamber, two horn-shaped motifs are found, both falling in the Type IV Tanda (2021) category. They consist of naturalistic crescent-shaped horns carved on top of a stylized bull head, rendered with a simple trapezoidal relief. A low plinth rests at the foot of the walls while a thin band on top of it runs just below the ceiling. On the sides of the door between the antechamber and the adjacent quadrangular room (c), the jambs are decorated with false plinths and abaci. The compartment is a sub-circular chamber (1.30 x 1.48 m, height 0.90 m) featuring a raised niche in the northern wall, and another larger chamber in the western wall. The small cubicle or raised niche (d), the panel of which was clearly enlarged, has a slightly elliptical layout and curved walls and ceiling. The hatch communicating with chamber e, in the west side, features the same relief plinth-and-abacus motif of the lesenes, currently barely visible. The hatch led to a quadrangular room (1.40x1.50 m, height 0.85 m), currently open on the southern side and partly lacking its roof as a result of rock degradation.

010. NECROPOLIS OF LI MURI

Arzachena



Strada di Li Lolghi, 07021 Arzachena SS

38CC+3J Arzachena, Sassari Province

fig. 2.106 - Top view of the necropolis

The necropolis is located in the countryside of Arzachena and includes four funerary circles (called type A) and an *allèe couvèrte* (Tomb V).
The necropolis was discovered in 1939 by Michele Ruzittu who informed Superintendent of Antiquities Paolino Mingazzini of the existence of the site. In 1940, the excavation of the area began under the direction of Salvatore Maria Puglisi, who first published the results in 1941 and, after further joined investigations with Castaldi, republished them in 1964. In 1994, the excavation of Tomb V and the ritual enclosure included between the circles was completed (Antona 1999).

The four circles of the necropolis have recently been attributed to the San Ciriaco culture (Medium Neolithic). The site used to be regarded as dating back to the Late Neolithic and some scholars associated it to a specific Gallura *facies* referred to as "the Culture of Circles" or "the Arzachena culture".
On the other side, as far as Tomb V

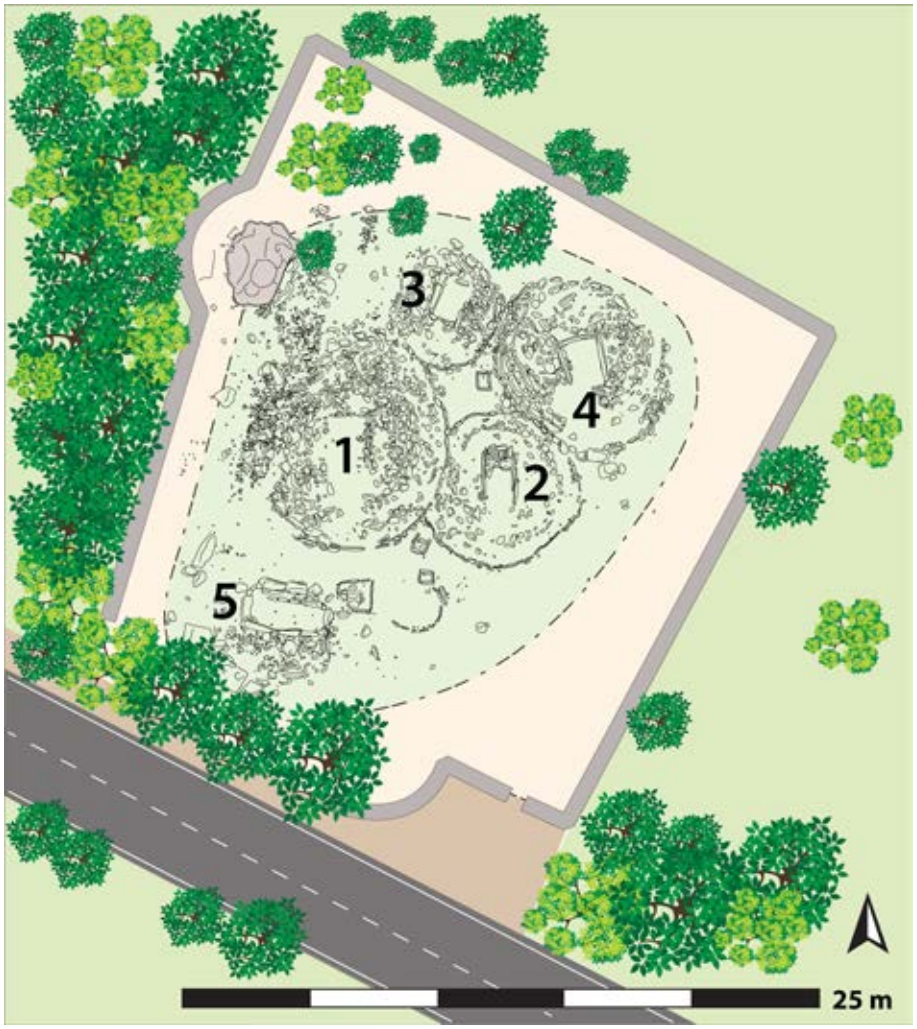


fig. 2.107 - General layout of the necropolis

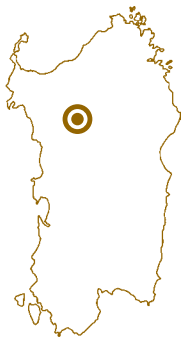
fig. 2.108 - Details of the necropolis circles

is concerned, the period of time suggested by excavation works, suggest that it was last used in 1600 BCE ca., as evidenced by the discovery of an clay bowl dating back to the Middle Bronze Age.
The typical tomb consisting of grave circles bordering each other, includes a compound (1.50/1.90x1.10/1.50 m) made of granite stones emplaced in the ground, with a horizontal stone used as a cover. The whole structure was originally covered by a circular mound of rubble and dirt, supported by slabs and stones of different sizes arranged in concentric circles. A menhir was emplaced in the outermost circle.
On the outside of each grave, a small quadrangular stone box was intended to collect offerings for the deceased. The four mounds, from 5.30 m to 8.50 m in diameter, were built during a long period of time, which ended up making the ritual space comprised between their points of tangency inaccessible. In this area there are two anionic menhirs in a facing position, and a stone donation box (about 0.45 x 0.35 m).

The *allèe couvèrte* (Tomb V) located a few meters SE from the other tombs, stands out for its unique structural features. Indeed, it is a flat rectangular chamber tomb (2.10x0.80 m), dug below the floor level (depth 0.60 cm), with the long facing sides consisting of three vertical slabs; a block completes the back side. Unlike more ancient structures, this tomb includes a mound with an open gap leading to the burial chamber, making it possible to enter the chamber multiple times. This feature implies the significant innovation of the multiple-body burial of the chamber tomb compared to the single-body burials or at most two-body burials, typical of the tombs used during the previous age, a fact that suggests a substantial cultural change.

011. PETROGLYPH PARK

Cheremule



07040 Cheremule SS

FPPJ+59 Cheremule, Sassari Province

The Park is located about 2 km South of the town of Cheremule, in the striking scrub landscape of the Miocene limestones of the Nurighe plain. It was established in 2013 and includes three groups of hypogea: Moseddu, Mattarigotza and Tennero, for a total of thirty-seven tombs.

The first reference to the hypogea was provided by Filippo Vivanet in 1880. Antonio Taramelli identified the Moseddu group and mentioned it in the 1940 Archaeological Maps, labeling it as Furrighesu. Most of the tombs did not uncover any archaeological finds, but the layout and type categories help date the earliest construction of the Park's hypogea between the 4th and 3rd millennia BCE, while their changes and reuses date back to the Roman, Byzantine and Early Medieval Ages.

Necropolis of Moseddu

The Nominated Property includes the Necropolis of Moseddu (or Museddu), located in the northern part of the park. Most of the tombs have been excavated along the southern and eastern slopes of a low limestone outcrop that towers over the plain at a fairly uniform elevation, however, there are some hypogea in unusual positions and orientations: among them, the "Tomba della cava" ("Tomb of the Quarry", Tomb I), which faces South.

The necropolis consists of 18 hypogea, for the most part developed horizontally, including a pavilion and the main chamber, and at time also an entrance corridor. Fewer hypogea feature lateral chambers. Tomb XV has a simple plan, including a short *dromos* and a pavilion that leads to the inside of the hypogeum. The hypogeum includes two rooms divided by a raised partition wall. A recess is seen on top of the door leading to the pavilion, possibly designed to house a horizontal slab. As a matter of fact, the hypogeum is regarded as a hypogean-megalithic monuments.

Tomb XVI, known as "Sa Presone", includes a 4.80 m dromos, a pavilion, a main chamber and a sec-

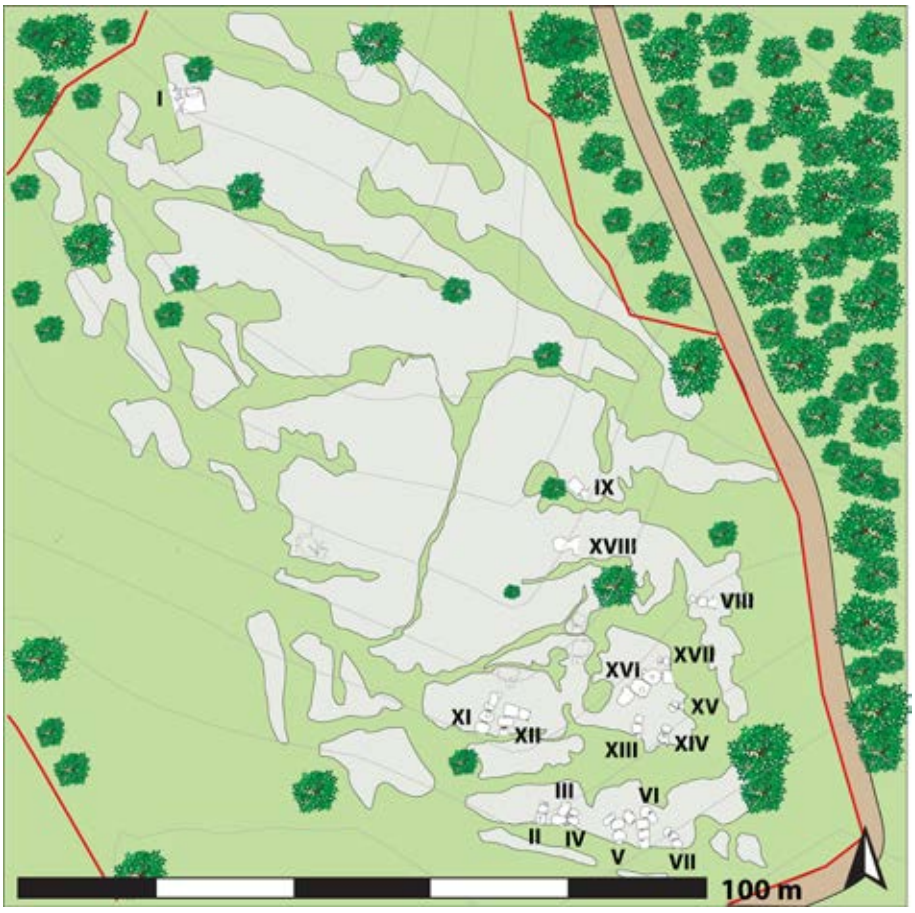


fig. 2.109 - General view of the Park's necropolis

fig. 2.110 - General layout of the Necropolis of Museddu

ondary chamber. Also in this case, a recess can be found on top of the door, but only on the left side; it is therefore impossible to speculate about its function. The door leads to the semicircular antechamber that features a relief hearth. Along the walls, bas-relief plinth may be seen. The plinth continues on the sides to form lesenes. In the same room, there is a semicircular niche that is equipped with a panel featuring a frame and a lintel in relief. Another door featuring a lintel in relief leads to the second room, that underwent changes during the Roman time and repurposed as a wine cellar.

Being isolated from the others, Tomb I known as the "Tomb of the Quarry" was transformed into a sepulchral

fig. 2.111 - General layout of the Necropolis of Museddu

fig. 2.112 - Top view of Tomba Branca

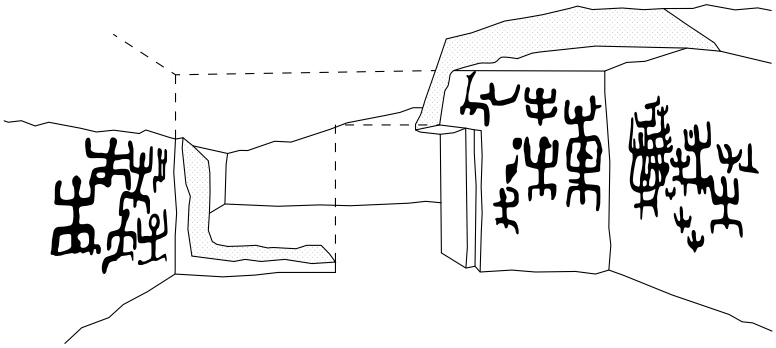


fig. 2.113 - Survey including tomb motifs

chapel in the Byzantine or Vandalic Age through the demolition of the front wall. On the outer wall, there are twelve anthropomorphic figures and three shallow niches.

Necropolis of Mattarigotza and Tennero

The Necropolises of Tennero and Mattarigotza are included in the *buffer zone*.

The Mattarigotza necropolis is located in the southernmost part of the Park. Most of the hypogea feature

fig. 2.114 - Tomb motif detail

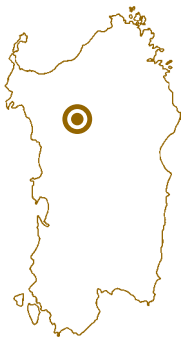
simple floor plans and at least two of them include only one chamber, accessed by a pavilion. Tomb II, that is more complex, has a T-shaped plan, including a *dromos*, an antechamber, a rectangular main chamber and two secondary cells facing each other and accessed by the sides of the main chamber. The hypogeum, like the other hypogea in the same necropolis, feature some architectural elements: at least four panels are decorated with relief lintels. On the wall of the main chamber of Hypogeum V, two bucrania appear, being executed using different techniques.

The Necropolis of Tennero, South of the previous one, includes nine hypogea, almost all of which has a simple layout and a horizontal development. One of the most interesting one is Tomba Branca (Tomb X), that has a simple architectural structure, including a single room accessed by a dromos that leads to a pavilion. Right on the pavilion walls, a series of anthropomorphic petroglyphs may still be seen, made using direct percussion technique, that is named after the Park. On the left wall, there are six figures, while on the right, there are at least eight of them. At least six additional figures appear on the front wall, to the right of what used to be a panel. Unfortunately, the monument does not have a cover anymore; the portion of the wall to the left of the door, where other figures were likely to be engraved, was not preserved.

Most of them show male attributes; the arms are extended upwards, as if praying. Only in one case do some authors recognize an anthropomorphic figure "upside down", symbolizing the afterlife. Contu suggested that the groups of figures represented ritual dances or acrobatics related to the world of the dead. In the groups to the right of the door, two anthropomorphic figures, one on top of the other, with the one at the bottom that seems to support the one on top of it during a feat of agility.

012.
DOLMEN OF SA COVECCADA

Mores



07013 Mores SS

GV58+7M Mores, Sassari Province

The dolmen is located on a vast and bare trachytic plateau with sparse Mediterranean scrub bushes, clearly visible from every spot along an ancient transhumance path.

In the area there are other prehistoric monuments, closely connected with the dolmen: at 140 m NW, a menhir is documented, currently lying on the ground, and a small necropolis of *domus de janas* can be found 170 m to the S.

First cited in 1905 in a paper by Giacomo Calvia, it has been the subject of publications by several authors, including Oliver Davies and archaeologists Antonio Taramelli, Giovanni Lilliu, and Enrico Atzeni. The excavation carried out by Paola Basoli during the 2011 restoration of the monument helped identify, at the back of the dolmen, a step carefully carved into the rocky floor plan, that supported the original closing slab that is no longer available. Inside a small sub-circular pit at the base of the step, the excavation unearthed the remains of ancient ceramics and a fragment of a fairing vase attributed by the scholar to the human presence at the monument during the Copper Age.

However, based on the data available for other monuments falling

fig. 2.115 - The environment around the dolmen

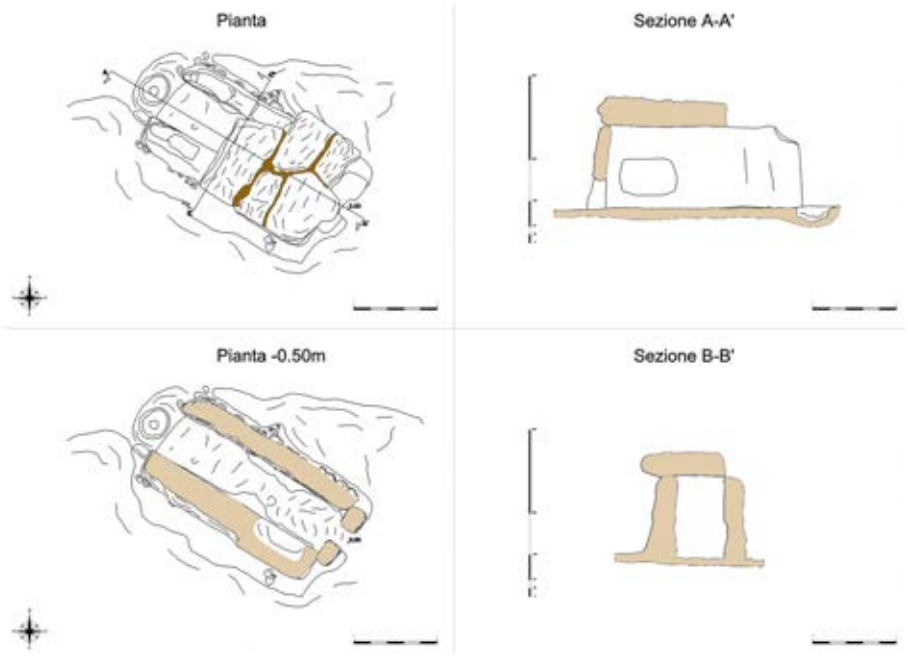


fig. 2.116 - Dolmen relief

into this monumental category (the dolmen of Motorra-Dorgali, the dolmens of Ciuledda and Alzoledda-Luras), the construction of the dolmen is attributed to the 4th millennium BCE.

The monument stands out among the Sardinian megalithic structures for its exceptional size and peculiar elements, such as the access door carved on the front slab.

The simple dolmen is made of trachytic tuff and consists of a rectangular chamber (4.20x1.20x2 m), with a NW-SE longitudinal axis, marked by three large masterfully carved slabs, one on each side and one on the front, while the rear orthostat has now disappeared, perhaps shattered and replaced by local shepherds with a pile of pebbles.

The door to the room faces SE. At ground level, the front plate features a central sub-rectangular access door (0.50 x 0.66 m). Considering the presence of a carved panel (a *port de four*) the dolmen can be compared with numerous sites located outside the island, especially in France and Spain.

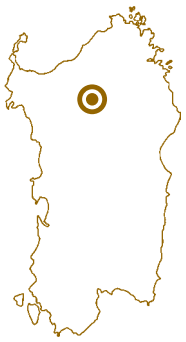
To the left of the entrance (for those looking from the outside), the slab serving as the SW wall includes a small round niche at ground level. The sub-rectangular cover slab (3.25x3x0.60 m) weighs over 25 tons and has a large transverse crack, so only half of it is still visible, and on the front side an intentional cut at right angles removed the original eastern corner of the slab. In the inside, on the SW orthostat, at the entrance, there is a rectangular niche (1.25x0.88x0.50 m) about 30 cm above the ground.

fig. 2.117 - The front of the dolmen

fig. 2.118 - Side view of the dolmen

013.
SHELTER OF LUZZANAS

Ozieri



07014 Ozieri SS

MV2R+92 Ozieri, Sassari Province

The shelter is located in the countryside of Ozieri along a transhumance path that leads to the Gulf of Asinara and dominates a floodplain, marked by the junction of Rio Mannu with Rio de sa Costa, providing a favorable setting for the development of productive economy and prehistoric human settlements in the Neolithic and Eneolithic ages.

In 1988, the shelter was reported to the Civic Archaeological Museum of Ozieri by Pietro Pala, the owner of the land. The first edition was published by Paola Basoli (1989), who then further analyzed the pictorial composition and published the results (1992). The processing obtained via the Dstretch software allowed the identification of additional thirty-six motifs, almost no longer legible to the naked eye, published by Liliana Spanedda (2017). The shelter is particularly relevant due to its pictorial decoration. In Luzzanas, the artist depicted a parade of men, animals, plants, cosmological and cultural elements. The figurative repertoire is part of the cultural trend of Franco-Iberian schematic art, widespread on the coasts and islands of the Mediterranean between the final stages of the Neolithic and the initial phases of the Copper Age, found on Sardinian vases and various types of media: caves, hypogea, menhirs,

fig. 2.119 - Top view of the environment around the Shelter of Luzzanas

fig. 2.120 - Shelter of Luzzanas

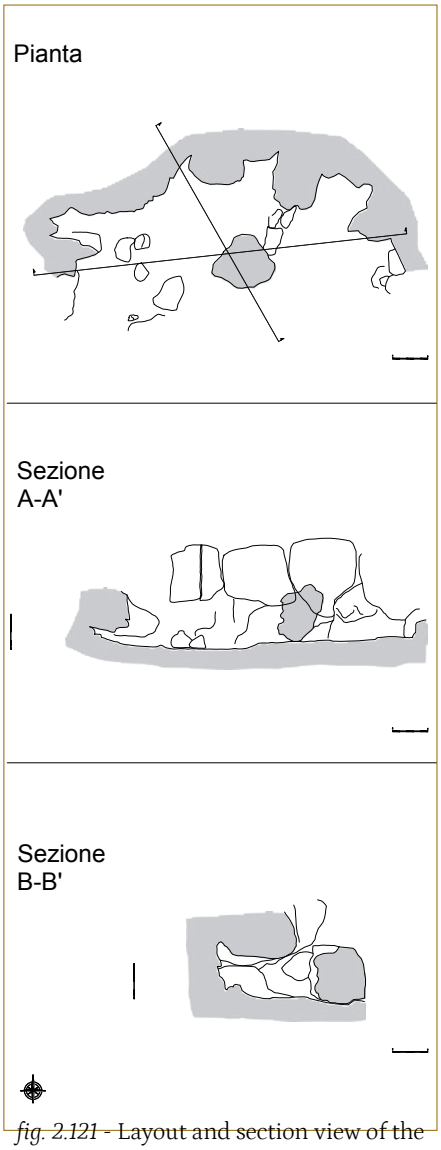


fig. 2.121 - Layout and section view of the Shelter

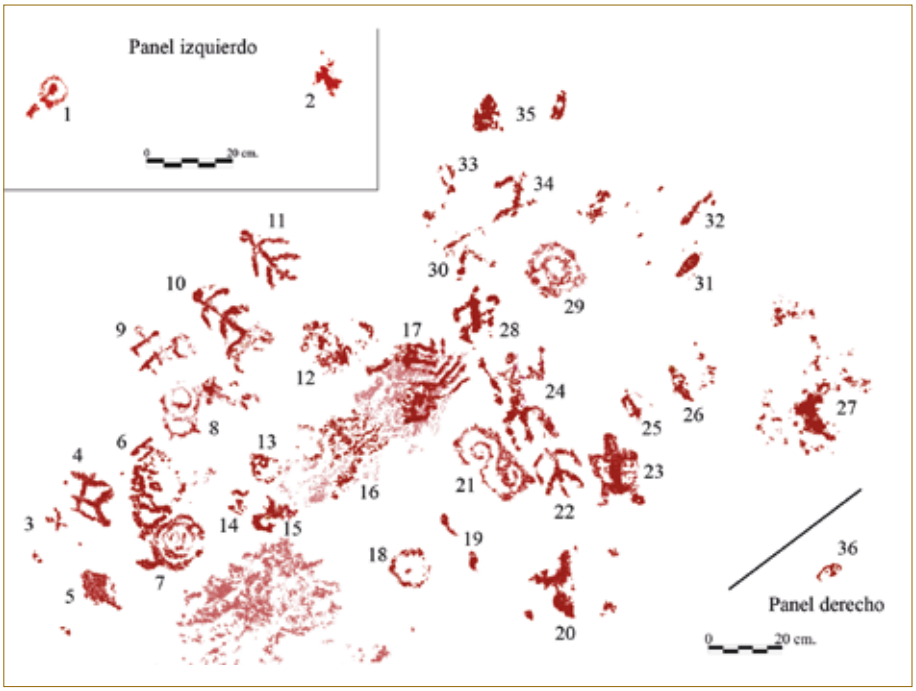


fig. 2.122 - Anthropomorphic and geometric motifs painted inside the Shelter

fig. 2.123 - Detail of an anthropomorphic motif painted inside the Shelter of Luzzanas

slabs, megalithic tombs and rocks.

The composition occupies for the most part a section of a wall of about 2x1 m and consists of figurative motifs painted with ocher, some of which are found in the adjacent left (motifs 1-2) and right (motif 36) panels.
Thirteen mostly complete figures appear, being arranged in groups of two or three, where a human stylized figure is represented, featuring arched or bend arms and legs, heads and genitalia; sometimes the legs are spread apart (4-30); sometimes they include hands and feet (24-23); sometimes they include a full body (28-23); sometimes they carry weapons (4-24); sometimes they mount on an animal (9-10).
The anthropomorphic figure 24 has a peculiar character, with more full bodies than the others, in a central position and in worshiping attitude, holding weapons or signs of power in both hands.
There are also circular motifs revolving around a central spot (18); a radiating circle (1) and multiple radiating circles (7); a current double spiral design (21); branch-shaped motifs (16-17); cross-shaped motifs (3-11); an idol with eyes (36).

The communication system adopted highlights a complex society organized hierarchically and based on identity values. These elements connect the shelter to a Copper Age social model outlined and shared by scholars, a reminiscence of the past but also a confirmation of the present.

014.
NECROPOLIS OF SANT'ANDREA PRIU

Bonorva

Piana Santa Lucia, 07012 Bonorva SS

CRCW+MV Bonorva, Sassari Province

The necropolis is located in an environmental context where human activity has barely affected the natural environment.
It is located at the foot of the ridge that borders the Campeda plateau, the Mariani hill that opens towards the Goceano region, and the fertile and water-rich plain of Santa Lucia.
It consists of 15 tombs, almost all of them are multi-chamber and excavated on the vertical wall of 10 m high ignimbrite outcrop facing South.
The erosion of the rocky front resulted in the detachment rock; therefore, the entrance of some tombs are currently raised from the ground level.

The transformation of the Tomb of the Chief (VI) into cave church resulted in the site being mentioned in a manuscript dating back to the 11th-12th century. The first concise description of the tomb was published in 1834 by Vittorio Angius in the Casalis Dictionary.
In 1916, Antonio Taramelli directed the first excavations at the site.
The largest graves of the necropolis were emptied of their original deposit probably as early as the Roman Age; the other tombs have uncovered few archaeological materials, which suggest that the hypogea were built in the Late Neolithic (Ozieri culture) and used at least until the Bell Beaker phase.
The western sector of the necropolis includes Tombs I, II, III, IV. They are simple tombs, without any decorative elements, except for Tomb I, that preserves a hearth in relief with a cup-and-ring stone in the middle of the floor in the main chamber. Three pit tombs are found in the same area due to the fact that the hypogeum was reused in the Early Middle Ages. Until the 1970s, another tomb was still visible, featuring a hearth that is now displayed in the National Museum of Sassari.

fig. 2.124 - Top view of the Necropolis of Sant'Andrea Priu

In the central part of the ridge, the three monumental tombs: Tomba a Capanna (Circular Hut Tomb), Tomba del Capo (Chief's Tomb) and Tomba a Camera (Chamber Tomb).
The Chamber Tomb (Tomb V) includes only one room accessed by a covered vestibule. The room features several symbols: numerous cup-and-ring stones are carved on the floor and the conical roof is fixed on the ceiling, with radially engraved grooves which represent the negative space of the beams of the roof. The two open niches on the wall of the room and the pit dug into the floor were carved in Roman times. The tomb was originally accessible by a staircase carved into the rock.
The best known is Tomb of the Chief (VI), that is accessed by a staircase that is now preserved on a large boulder in front of the hypogeum. The layout is divided into eighteen rooms, three of which are large and arranged along the central axis; the other rooms are small chambers accessed by the central room. The original layout underwent changes in the early Christian, Byzantine and medieval times, when the monument was used by Christians.

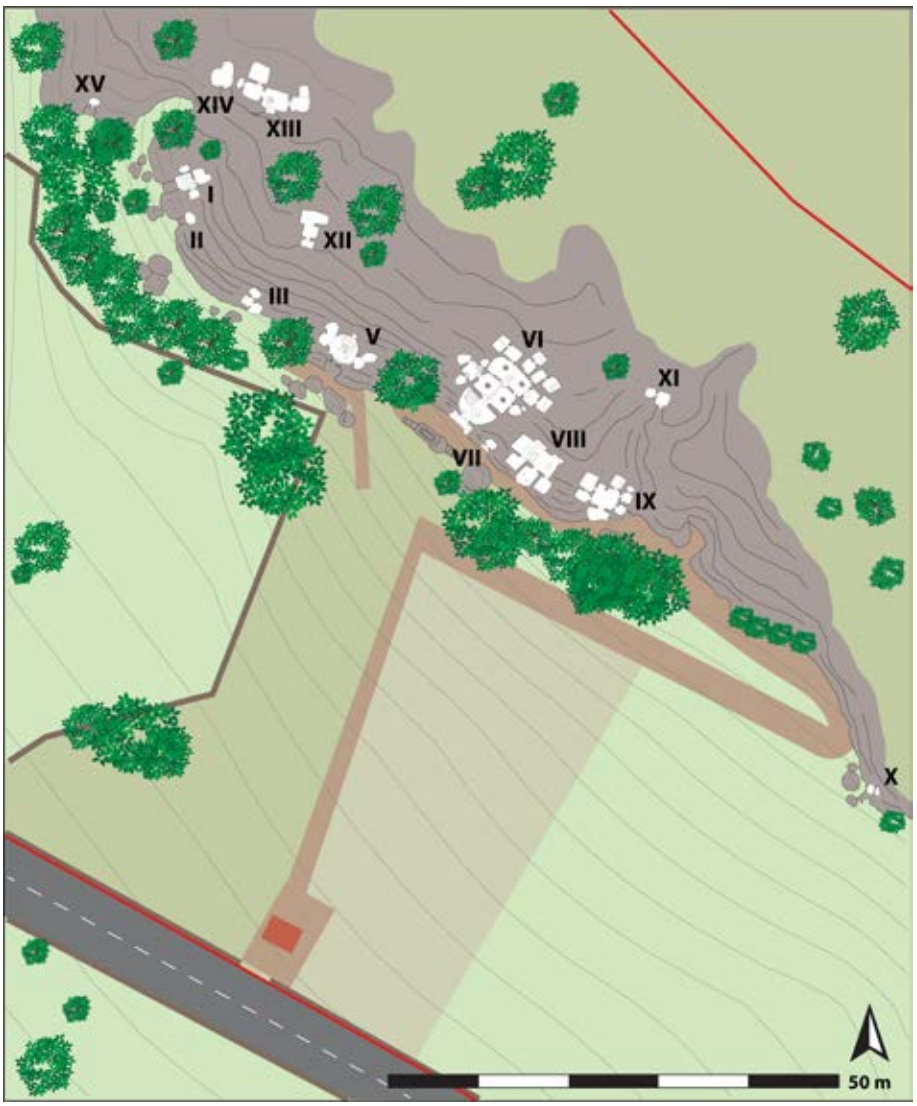


fig. 2.125 - Top view of the Necropolis of Sant'Andrea Priu

fig. 2.126 - Detail of the ceiling representation found in the Chief's Tomb

The original development of Tomb VII is unknown; for further information on the Chamber Tomb (VIII), please refer to the detailed description. Tomb IX is located in the eastern part of the rock face and has the same simple layout of Tomba del Capo.
Tomb X is isolated and, unlike the previous ones, was largely lost due to quarrying.
Tomb XI lies in the plateau above it and it consists of two rooms, the ceiling of which has collapsed.
A short distance from the edge of the plateau stands a unique perforated rock resembling a four-legged animal, the meaning of which is difficult to grasp. According to Taramelli, it used to be an hypogeum, the walls of which, at one point, collapsed. But its resemblance to the shape of a headless bull interestingly suggests that it was a real sculpture.
To the North of this unique rock are two hypogea: Tomb XIII, consisting of a rectangular chamber with two doors leading to lateral smaller chambers. The central chamber includes a hearth carved on the floor, with an embossed ring and central cup-and-ring stone.
Tomb XIV consists of a *dromos* and a single room that widens into a niche on the left.
Located on the western edge of the plateau, Tomb XV preserves an antechamber that leads to an oven-shaped room.
The remains of dwellings and a Roman thermal building may be found at the foot of the necropolis. The Roman funerary area extended to the nearby medieval Church of Santa Lucia that was redesigned several times.

Chamber Tomb (VIII)

The tomb was originally accessed by a flight of steps, while currently, it is accessed by a quadrangular antechamber featuring two small windows carved in the past. Traces of red paint can still be seen on the

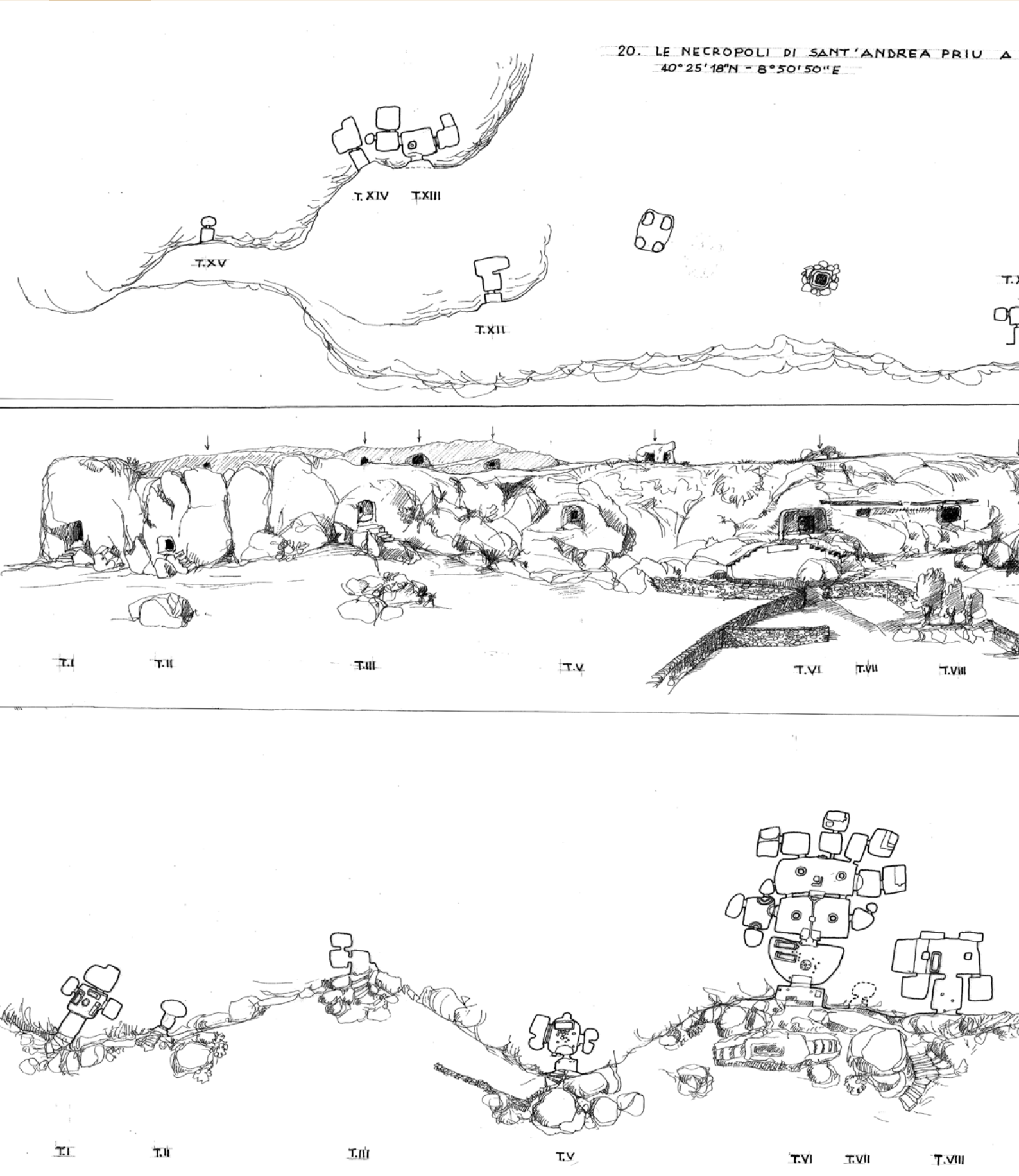
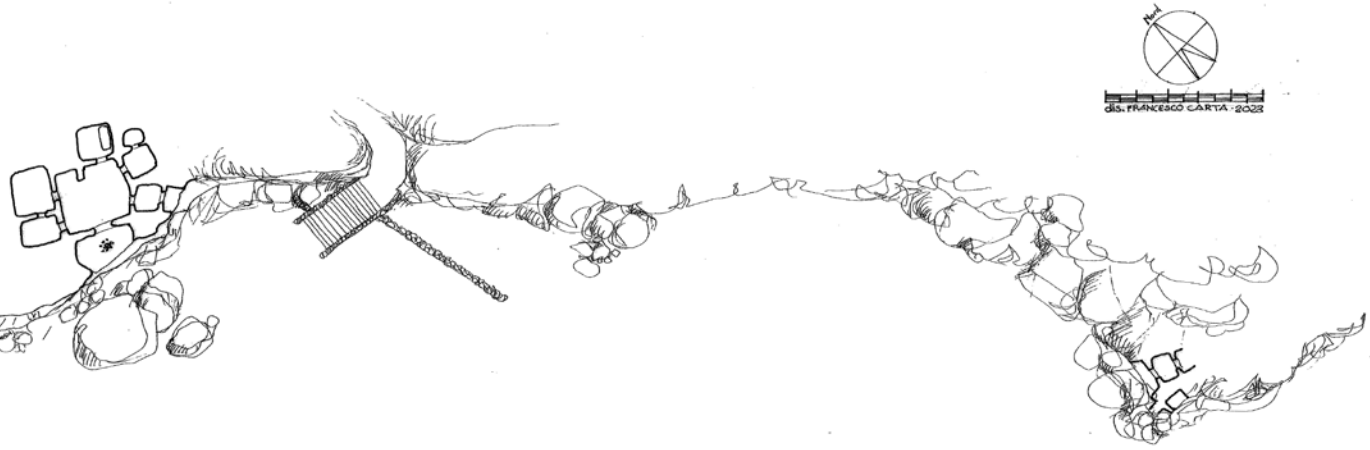


fig. 2.127 - General layout of the Necropolis of Sant'Andrea Priu

BONORVA (SS)

PLANIMETRIA DEL PIANORO

T.IX PROSPETTO DELLA RUPE T.X



T.IX PLANIMETRIA GENERALE T.X

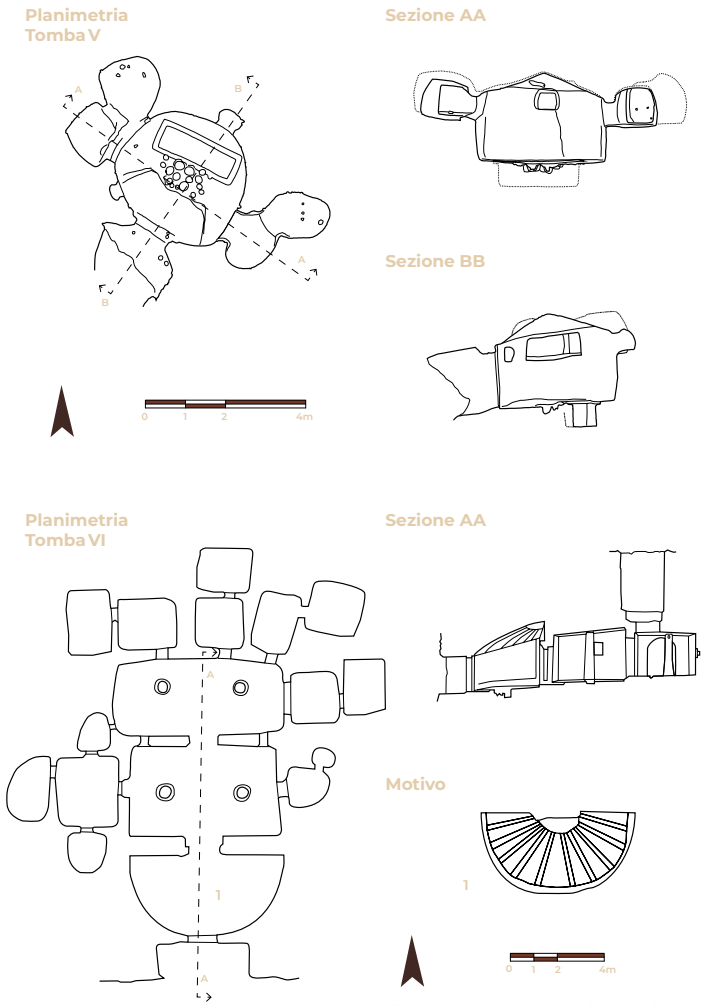


fig. 2.128 - Layout and section views of Tomb V (Circular Hut Tomb) e VI (Chief's Tomb) of the Necropolis

fig. 2.129 - Ceiling decorated with a carved double pitched roof of Tomb VIII, i.e. Chamber Tomb

jambs, while the floor preserves several cup-and-ring stones.
The antechamber leads to a larger rectangular room (4.70x3.05 m), covered by a double pitched ceiling supported by pillars carved in the rock. The pillar to the right of the entrance is thinner on top and reaches the ceiling at a height of 2.10 m, while the other is 1.40 m high pillar resting on a step, raised from the floor, that occupies the entire short side to the left.
The pit tomb excavated in the floor level dates back to the Late Roman phase of reuse, while the burial niches excavated in the wall facing the entrance are more recent.
On the long side of the cell, on either side of the entrance, two openings lead to two quadrangular chambers. Their floor level is approximately 75 cm higher than the level of the main chamber and the ceiling is much lower. On the short side to the left, in addition to the above-mentioned step, another low rectangular chamber is excavated, similar to the other two, also considering it is rather low.
The main chamber features a reproduction of a double pitched ceiling with a series of parallel beams radiating from the ridge beam. The layout and decorative motifs described fall within the patterns known in other Sardinian contexts. What is striking, however, is the lack of symbolic motifs, such as horns and spirals, which are found in the more complex tombs of the nearby Necropolis of Sa Pala Larga, and the frequency of architectural representations, in particular the reproduction of the roof in no less than three variants.
The hearth is reproduced in three hypogea (Tombs I, XIII and an unknown tomb, possibly Tomb X, not legible anymore) while cup-and-circle marks are carved into the floor, in two adjacent cases within a circle (Tombs VI and IX).

015.
NECROPOLIS OF SA PALA LARGA

Bonorva

07012 Bonorva SS
CV6C+6P Bonorva, Sassari Province

Also known as Aidu 'e Santos, about 8 km from the town of Bonorva, it is located on the south-western slope of the homonymous hill, about 600 m above sea level, inside the Mariani Natural Park.

The first section of the necropolis, comprising five tombs, was reported in the 1990s by Antonietta Boninu and Maria Solinas.
Between 2007 and 2008, during archaeological excavations carried out by the Superintendency in collaboration with the University of Rome, Tombs VI and VII were identified and excavated in 2008. Based on archaeological material recovered during the excavation, the tombs of the necropolis can be traced back to the Ozieri culture.

fig. 2.130 - Landscape of the Necropolis of Sa Pala Larga

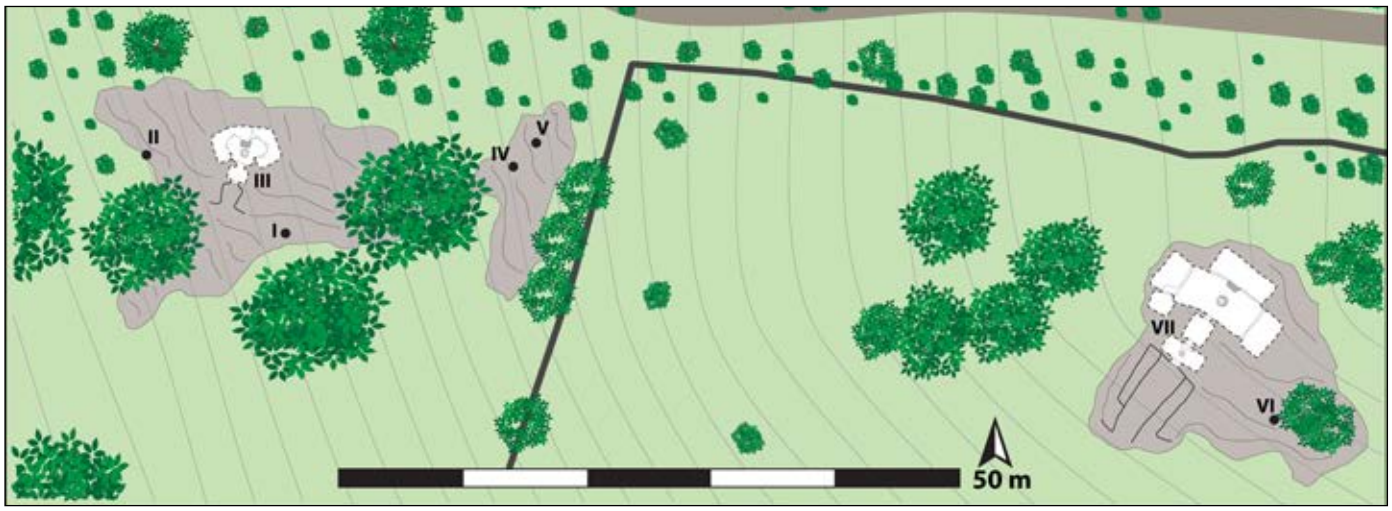


fig. 2.131 - Landscape of the Necropolis of Sa Pala Larga

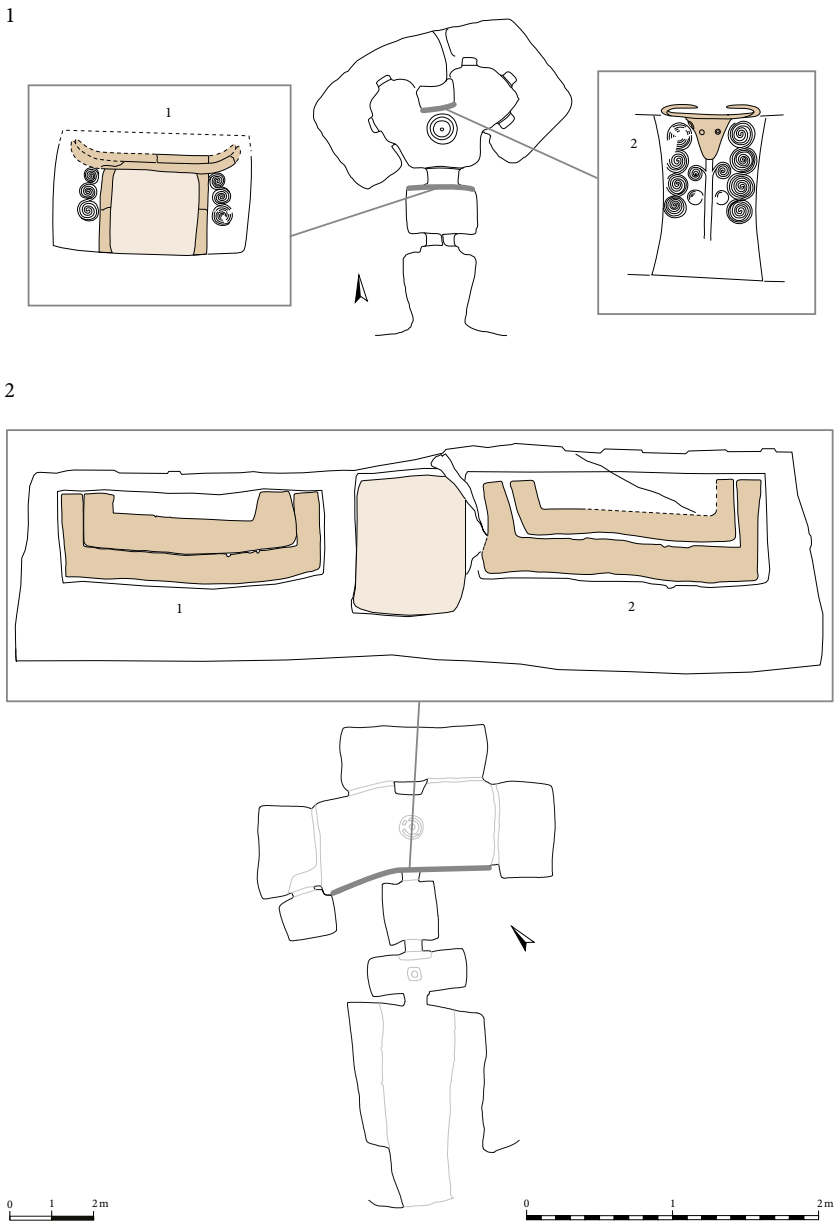


fig. 2.132 - Layout of Tombs III and VII

Nowadays, eleven tombs are known, but the presence of other hypogea may not be excluded. So far, seven tombs have been investigated, those in the northern part of the rocky ridge, and not all of them completely (Tomb IV or Tomba delle Lucerne is largely yet to be investigated). Four tombs, identified on the other side of the pass, are partly concealed by vegetation.

Between the two groups of hypogea, there is a menhir and the quarry where the ocher used to paint the hypogea was likely extracted.
A series of gutters are visible in the site that create a sophisticated protection system for the inner rooms, allowing the correct flow of rainwater.

Tomb I

The excavations uncovered several rooms: the monumental dromos, decorated with a series of votive cup-and-circle stones, and the antechamber, with rich decorations consisting of large spirals in high relief on the East and West sides, painted decorations and a cup-and-ring stone in the middle section.
In the antechamber, a reuse in medieval times has been confirmed, documented among other things by two decorations painted over Neolithic red paintings, possibly featuring birds and wave-shaped motifs.
The main cell imitates the interior of a hut with a double sloping roof. The offset side lintels originate from the central beam, in a pattern that has not been found anywhere else. In the center of the chamber, the pillar has two sculpted and painted triangular bull protomes on the front and right sides, one featuring an eye. At the foot of the pillar is a hearth carved with concentric circles in high relief and a central dome. To the right of the entrance is a funerary all-round bed leaning against the wall, decorated with elements in relief that seem to replicate the wooden structure.
Richly carved, engraved and painted decorations appear on all the walls of this room and some of the other six secondary rooms. In addition to a false door featuring a boat-shaped protomes on top of it, engraved spirals and zig-zag or dog-tooth motifs are worth mentioning, elements that sometimes 'cut through' previous motifs, revealing that the decorations were made in different phases.
A decorative spiral motif similar to the one found in Tomb I was identified in one of the side chambers of Tomb II, located in the western area of the necropolis.

Tomb VII

It consists of a long *dromos* and three axial chambers, the last of which is particularly wide; four radially arranged chambers are connected to it.
The *dromos* consists of a central aisle and two raised side benches. It leads to a rectangular room (room 0) that was originally domed; the dome is

currently preserved only in the NE corner. On the northern side, in the center, there is door leading to a second antechamber, characterized by the presence of a step 30 cm higher than the floor and the recess for the closing hatch, engraved in the rock and well-shaped. In the center of the chamber, a quadrangular pit has a circular cup stone inside it, possibly representing a hearth. At the SW corner, outside the perimeter of the tomb, part of a raised elliptical chamber is preserved.
The second rectangular antechamber rests on the same axis as this room (room 1); the doors on the short walls lead to rooms 0 and 2.
The third room (room 2) is separated from the previous chamber by a step and its floor is 25 cm lower; it has an irregular rectangular shape, with the long sides being oriented EW. A pillar carved in the rock appears on the northern wall, while a hearth is rendered on the floor using two concentric circles in relief and a central dome.

On the west side of the main cell is a rectangular chamber (3), raised above the floor of the cell.
A rectangular room (4) appears on the long side of the main chamber and is separated from it by a double opening divided by the pillar described above; the East and West walls of this room are asymmetric, as the different floor work shows.
On the eastern wall, the main chamber leads to another rectangular room, that in turn leads to a smaller room (5-6).

The tomb features architectural and symbolic elements, and the extensive use of the color red was intended to emphasize the relief motifs or to create artistic representations. On the northern wall of the *dromos*, near the entrance to the antechamber, part of the embossed frame decoration is preserved.

fig. 2.133 - Interior of Tomb I

fig. 2.134 - Horn-shaped motif detail of Tomb III

All four walls of the first antechamber are framed with embossed frames which partially preserve the original red paint covering.
The four walls of the second antechamber are also decorated with a well-preserved frame; all the frames and the plinth are painted in red. The inner frame is covered with whitish plaster and traces of red spiral motifs are preserved on one wall.

The most significant architectural elements appear in the main cell. In addition to the hearth, the ceiling shows a double pitched roof with a central beam and ten pairs of side beams radiating from it, engraved in relief by removing the rock material between them. The ceiling was also

fig. 2.135 - Interior of the Tomb VII of Sa Pala Larga

decorated with white plaster and red paint, a color that cannot be clearly seen today due to micro-climatic changes.
On the pillar of the northern wall, there are traces of recurring spiral motifs painted in red. On the southern wall on either side of the door appear stylized horn-shaped motifs carved in relief, two on each side.

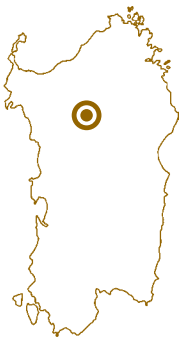
fig. 2.136 - Spiral motif detail painted inside Tomb VII

In cell 3, the North, East and South walls of the room are framed by bands of red paint and, on the other side, there is an extraordinary spiral decoration painted in red on a layer of white plaster. On the East wall, the upper edge is bordered by two black indented bands facing each other, leaving a central space free. The ceiling features three bands with a horn-shaped profile with rounded corners, filled in black on a white background; some traces of black on a white background suggest that the roof had a black and white checkered decoration.

Cell 4 is decorated with red bands on white plaster. The ceiling is entirely decorated with a checkered motif made of black painted rectangles on white plaster. Cells 5 and 6 also preserve traces of white plaster and red paint.

016.
NECROPOLIS OF SOS FURRIGHESOS

Anela



Strada Provinciale 113, 07010 Bonorva SS

FXR7+JX Bonorva, Sassari Province

The necropolis is located in the SW-facing ridge bordering the Pianu Oschiri plateau, the wall of which is raised 20 m, overlooking the valley crossed by Riu Buttule. It includes eighteen *domus de janas* dug in the rock face, with the exception of Tomb XV, that is located high up on the edge of the same ridge. Simple, one-room, two-room, T-shaped hypogea prevail; no complex and disordered plan designs are found.

The first reference to the necropolis was made by Antonio Taramelli (1931), who did not mention of the sculpted, engraved and painted motifs in the tombs, tough. The latter were first reported in 1970 by Ercole Contu. In 1984, Giuseppa Tanda published the data from the excavations completed in 1973-1974: the study of the materials and monuments, and the functional, architectural and decorative-cultural elements. In 2011, the excavation of Tomb XV was completed under

fig. 2.137 - The environment around the necropolis

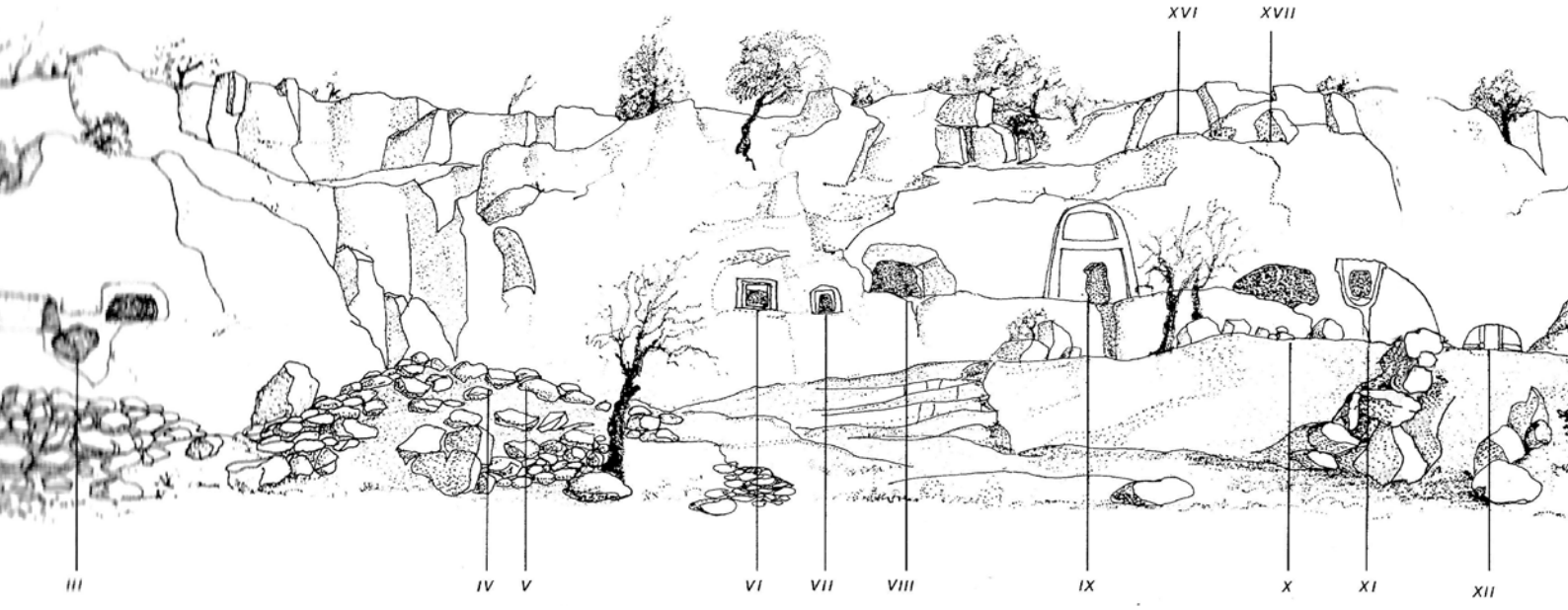


fig. 2.138 - Survey of the necropolis

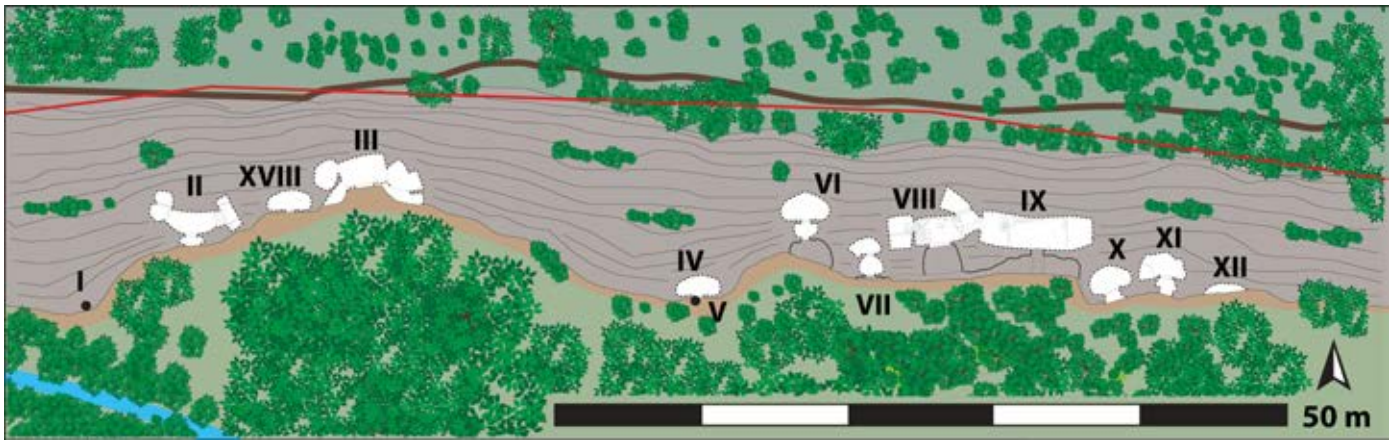


fig. 2.139 - General layout of the necropolis

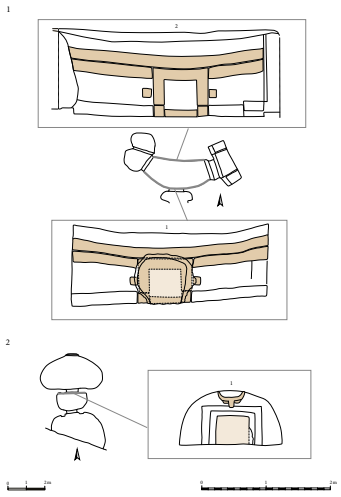


fig. 2.140 - Layout and section views of Tombs II and VI

the direction of Giuseppina Marras. The necropolis included the highest concentration of figurative motifs of Prehistoric art on the island: there were architectural and/or ritual elements, carved, engraved and painted both inside and outside the tombs. Different chronological phases can be recognized in the decorations: the carved motifs are to be considered contemporary to the excavation of the hypogea, while the hammered motifs date back to four prehistorical and protohistorical phases.
Inside the hypogea, there are pillars, columns, lesenes, relief bands, representations of double pitched and shed roofs, plinths, partitions, benches, and burial beds.
However, the ritual decorations of Tombs II, VI, VIII, IX, XI, XII, XV are of particular interest. The horn-shaped motif is common and featured in different styles, in single or multiple composition, more or less stylized. A false door is engraved in Tombs II, VI and VIII, and painted in Tomb XII. Anthropomorphic figures (Tomb XV), weapons, star and geometric motifs can also be found in the carvings.

Tomb VI

The tomb is located about 3 m from

the foot of the ridge. The entrance door to the antechamber is rectangular, featuring a high-relief frame. The antechamber has a semicircular plan, flat ceiling and floor, walls jutting out the inside of the room. A slightly raised plinth appears at the foot of the walls. The front door is decorated by two lesenes showing traces of red.

The door in the back wall leads to the next chamber. A bull bas-relief protome having a convex section and painted in red rests on top of it. The decoration shows the trapezoidal head with a sub-ellipsoidal snout, horns and semi-ellipsoidal ears. The rounded-tipped horns (Type I, Variety 1) bend upwards and merge with the ceiling.

The following chamber is semicircular and has a slightly concave ceiling and a plinth at the foot of the walls, a raised lesene and a step. Two partitions can be seen on the floor. In the back wall, there is a false quadrangular door flanked by a flat relief frame.
The materials uncovered during the excavation date back to a period of time ranging from the Ozieri culture to the Bonnanaro culture.

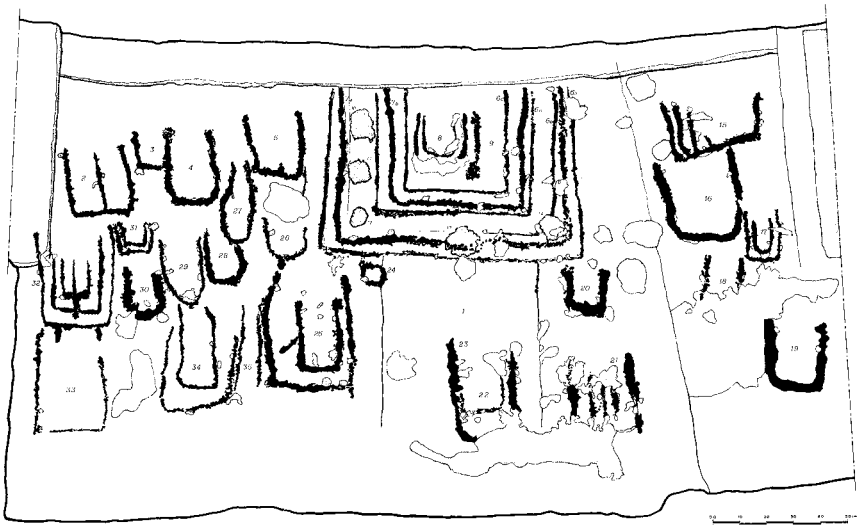


fig. 2.141 - Survey of the motifs engraved on the south wall of chamber B of Tomb VIII

fig. 2.142 - Survey of the motifs engraved on the north wall of chamber B of Tomb VIII

017.
VILLAGE OF SERRA LINTA

Sedilo

09076 Sedilo OR

4WV3+6XW Sedilo, Oristano Province

The village extends for over 40 hectares on the top and along the slight slope of a hill located in the Tirso river valley, in an area that is currently occupied by the artificial water reservoir of Lago Omodeo, where construction works were completed in 1924. The settlement extended in front of the river plain, at a bend of the Tirso river and near the confluence with Riu Iloi and Riu Siddo.

Following the discovery made by Umberto Soddu at the end of the 1980s, and confirmed by the surveys carried out in the same years as part of the project entitled "Iloi-Sedilo: the use of the territory from the Neolithic to the Middle Ages" coordinated by Giuseppa Tanda, the archaeological site has been investigated by several scholars who have described the structures and analyzed the materials uncovered during the surveys.

The area is characterized by the presence of several wall structures associated with a large number of artifacts made of stone and ceramic chips. In the absence of excavations, the study of these finds allowed the village to be attributed to the Ozieri culture.
The discovery of this vast settlement is of fundamental importance because it has allowed the identification of a construction model

fig. 2.143 - Top view of the village

hitherto known only through its depiction within the *domus de janas*. The model is not found elsewhere in the Sardinian archaeological environment and, on the basis of the data collected to date, it is also unique in the European environment.

From the analysis of the environmental characteristics of the territory, a distinctly agricultural vocation of the area emerges, documented by a high percentage of land (43%) having an optimal aptitude for cereal farming within a radius of 2.5 km around the settlement. The intense agricultural activity practiced in the fertile soils lapped by the Tirso river is documented by the numerous surface findings of millstones, grindstones and polished stone pestles. The choice of the location of the settlement, on the valley floor and along the banks of the Tirso river, is, in fact, far from random and reflects a precise economic and cultural orientation operated by an agricultural society that preferred the positions on low hills (between 90 and 130 m above sea level) adjacent to the irrigated river plain.
The best preserved structures are made of medium-sized stones on the basis of a module formed by two rooms, one rectangular and one semicircular one, adjacent to each other. Both are divided by further architectural partitions that can be hardly detected due to the small thickness of the residual elevation. The layout of nine tombs characterized by the scheme described above and the plans of a circular hut and a large semicircular structure can be clearly seen; of the remaining settlement, only a few wall pieces remain, which are not enough to recreate its overall development.
The surface occupied by huts ranges between 97.8 and 287 m² (measured through reconstruction estimates), for an average area of 176 m², based of the calculations made on the remains of six structures; on the other hand, the extension of the large semicircular structure identified a short distance from the Tirso river, is considerably greater, for a total amount of 330 m².
At the southern edge of the settlement, currently flooded by the basin, another structure is visible. Only a basic row of blocks remain, partly well preserved but difficult to detect due to the pebbles and debris deposited over it.
The building is large: as a matter

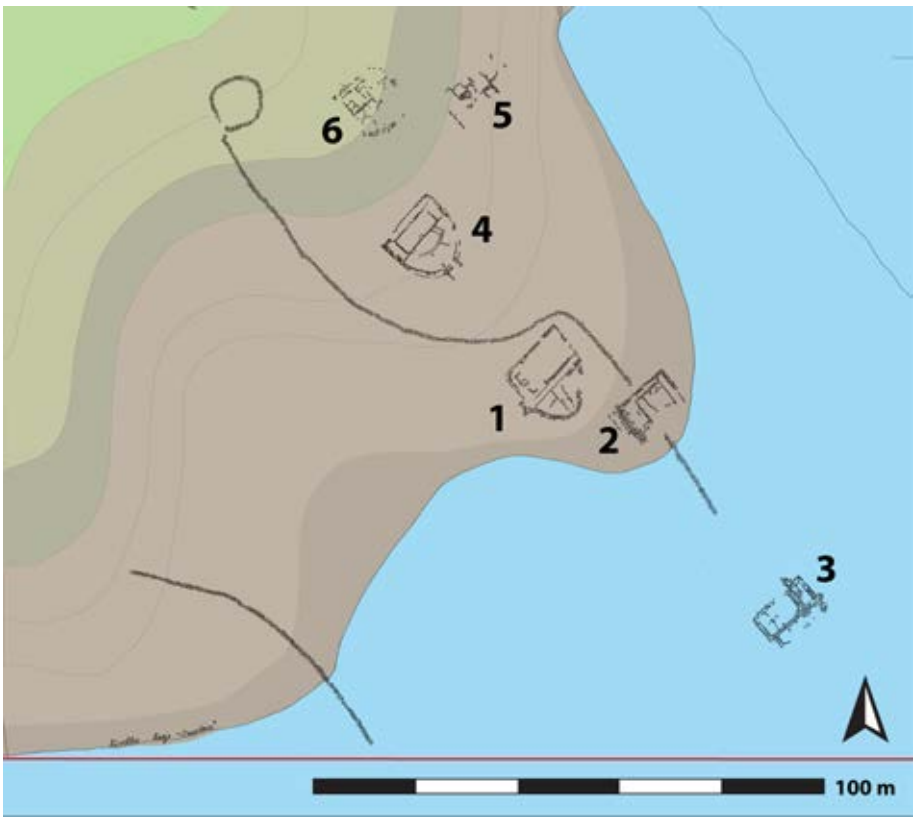


fig. 2.144 - Top view of the village

fig. 2.145 - General layout of the village

fig. 2.146 - Tentative reconstruction of the Village of Serra Linta

of fact, the western straight wall is 19.50 m long, while the semicircular part has an external radius of 20.50 m. The perimeter wall is double-faced with a wall thickness that reaches 1.70 m in the northern curvilinear section and 1.15-1.20 m in the southern one. The accumulation of small stones over it prevents from clearly following the development of the straight wall to the West and verifying the presence of a narrow corridor on that side; equally difficult is the identification of the traces relating to the internal partition of the large semicircular surface.

The entrance to the structure was on the East side at the maximum convexity of the semicircular module, where an accumulation of stones can be seen, including traces of wall segments that may be connected to the presence of a vestibule or another structure that is now hard to decipher.

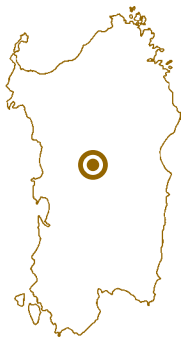
At the eastern edge of the settlement there is an area that has undergone the removal of a thick layer of archaeological deposit due to its exploitation as a sand quarry.

In the sections obtained by the quarrying activity, some areas of darker ash gray soil and with a large number of emerging materials, including obsidian, ceramic fragments, small bone remains and some shells, can be seen. No stone structures can be seen; however, some small pockets include a base layer of flat stones and medium-sized pebbles.

fig. 2.147 - Detail of Hut 1 of the Village

018.
NECROPOLIS OF ILOI/ISPILUNCAS

Sedilo



09076 Sedilo OR

5W53+82 Sedilo, Oristano Province

The vast hypogeal necropolis was excavated following the rocky outcrop of the tufa ridge of the top and middle slope of the plateau. It consists of about thirty-six small caves of different width and type, arranged in two main groups, one to the South, the other to the North-East, just over 200 m apart from each other, for a total length of about 460 m, while a small group is between the two.
The area is mentioned in the Dictionary published by Vittorio Angius (1849) and in the archaeological map by Antonio Taramelli (1940) where "several tombs" are labeled "Sas Percas de Iloi". Tomb I was published in 1970 by Carlo Maxia. The 1996 publication described a large group of *domus de janas*. The excavation of Tombs II and III has shed some light on some destroyed rooms and uncovered a large amount of materials, mostly pottery, useful for the reconstruction of the times when the tombs were used between the Late Neolithic and the Middle Ages.
The hypogea of the necropolis have both very simple (one-room and two-room) plans, and more complex plans with up to twelve (Tomb I) and thirteen rooms (Tombs II and III) communicating with each other.
The floor plans of the chambers are generally quadrangular, but in Tombs 1, 2, 12 there is a large semicircular chamber with a dou-

fig. 2.148 - The environment around the Necropolis of Ispiluncas

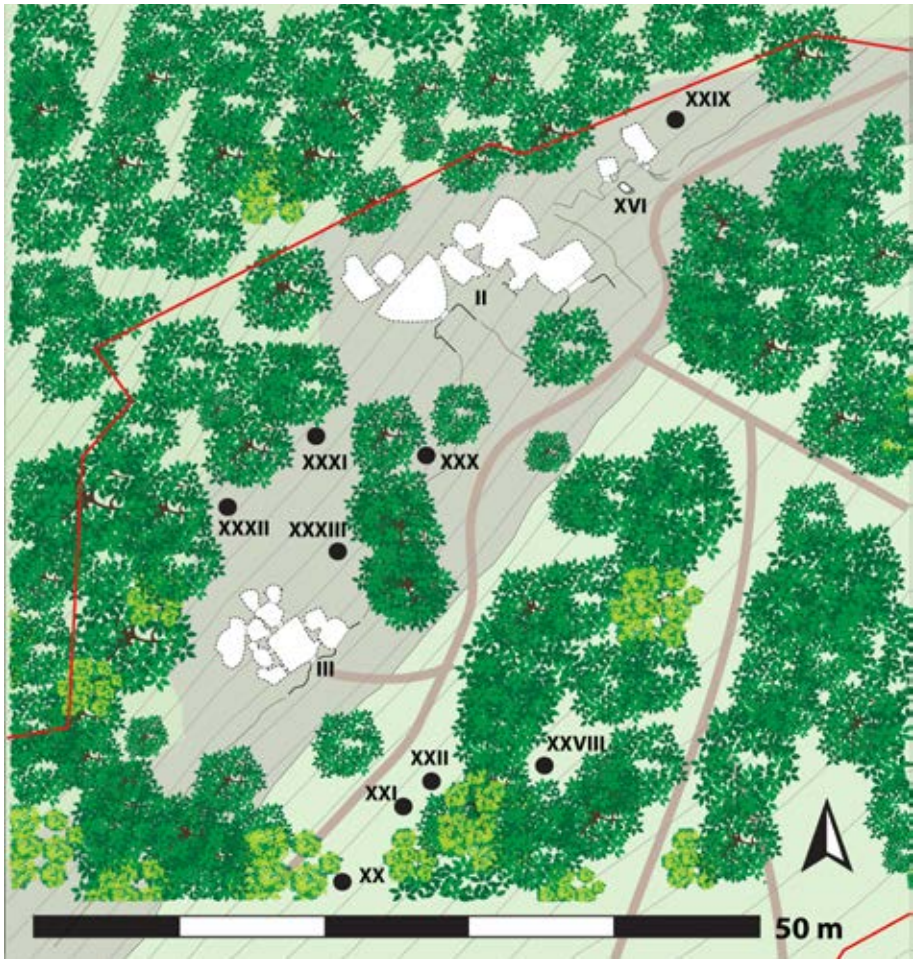


fig. 2.149 - General layout of the Necropolis of Ispiluncas-Sedilo

fig. 2.150 - Detail of the necropolis

ble pitched roof that resembles the architectural modules of the town of Serra Linta. The custom of replicating the shapes, patterns and details of civil architecture in the burial site is also documented by a widespread presence of elements, such as the niches carved into the walls, the lesenes, the frames flanking the doors, the grooves replicating the hut roof cross-beams (Tomb 1) or central beam (Tomb 2), the embossed partition walls on the floor. In hypogea III and VII there is a Type I Tanda (2021) ceiling, that is free from magical-ritual signs; in Tomb III there is also a Type III ceiling (2015).

Tomb II

The excavation showed that the hypogeum had been used for a long time, as documented by the recovery of materials referring to the Ozieri, Filigosa, Monte Claro, Bell Beaker, and Bonnanaro cultures, in addition to early stages of the Middle Bronze Age, the Late Bronze Age/Early Iron Age and the Early Middle Ages. Two radiometric carbon dating tests, one performed on the dromos within the US 36 (3088-2586 BCE) and associated with the Filigosa culture, the other performed on burned remains found inside a stone cist associated with a bowl dating back to the Late Bronze Age-Early Iron Age (1111-841 BCE). Tomb II layout includes thirteen rooms arranged along two main axes. Before the excavation, only nine chambers were visible, which were accessed through a narrow passage in the ground in front of room m. On its left, the 3.10 m wide and about 4 m deep dromos a and

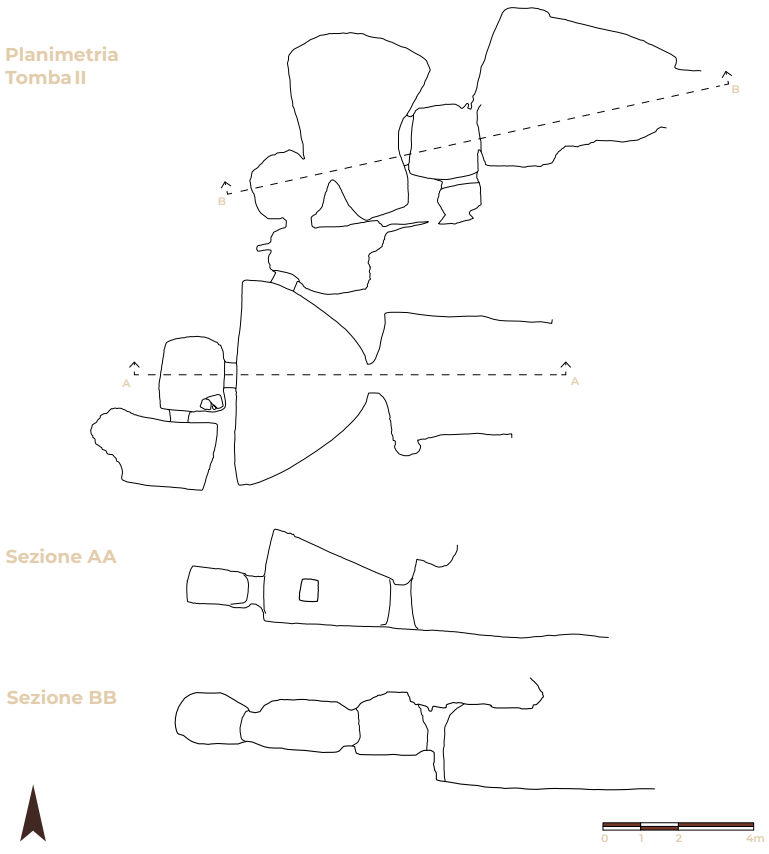


fig. 2.151 - Layout and section views of Tomb II of the Necropolis of Ispiluncas – Sedilo

fig. 2.152 - Entrance of Tomb II of the Necropolis of Ispiluncas

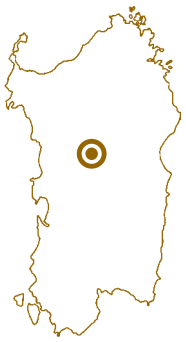
fig. 2.153 - Ceiling detail of the antechamber of Tomb II

pavilion b (width: 3.20 m, depth:1.12 m) featuring a lateral framed niche leading to the main hypogeum can be found.
The entrance door is rectangular and is oriented SE; it leads to a large semicircular antechamber c (5.40x3.40 m), having a ceiling sloping towards the entrance and with a maximum height of 2.45 m. The antechamber includes a representation of a negative beam in a slightly eccentric position with respect to the entrance.
A seemingly unexpected decoration is reported in Tomb 2. As a matter of fact, towards the entrance the semi-ellipsoidal antechamber is covered by a shed ceiling (Type III) fused with Type I and Type IV ceilings. In addition, towards the back wall, the ceiling turns double(Type I) and, in its highest point at the top of the roof, it features a semicircular crescent-shaped bas-relief (Type IV, Type including magical-religious signs). A relief negative beam connects the point of maximum convexity and the door, in a slightly eccentric position. Moreover, in the same Type 4 and Type 1 hypogeum, the type including magical-ritual signs appears (Tanda 2021). The back straight wall reveals traces of plaster painted in red ocher, white and charcoal gray; a trapezoidal framed door carved on it leads to the square small chamber d, resting on the same axis as the entrance. Adjacent to it, on the left, there is a lateral room, originally rectangular and then change to enlarge it.
The small quadrangular door of the curved northern wall of antechamber c leads to an irregular room f that serves as a connection between groups c-e and the g-m chambers. These series of chambers arranged on a single longitudinal axis W-NW/E-SE and connected to each other by enlarged doors, show irregularly quadrangular floor plans with straight walls, rarely curved, often cracked by roots and water infiltrations that seep into the hypogeum, damaging its structure.

Cell h includes raised partitions on the floor; room m is rectangular, accessed through a door opened by tearing down the eastern wall, and it forms a single room with cell n. The latter is quadrangular and in the open air; it is accessed by a small sub-circular cell o.

019.
NECROPOLIS OF MANDRAS/MRANDAS

Ardauli



strada Mandras, 09081 Ardauli OR

3XP2+3G Ardauli, Oristano Province

The necropolis is set in a hilly landscape and includes three hypogea excavated on two different trachytic outcrops. From a geological point of view, much of the area is occupied by volcanic ignimbritic rocks.

The study conducted on soil productivity showed that most of them have characteristics favorable to the establishment of farming activities. In addition to five natural springs, water availability was ensured by Rio Cannas-Canale to the North, the Rio Ollai to the West and the Rio dell'Angelo to the South.
The territory includes major evidence of the prehistoric age: within a few kilometers, there are the hypogeal necropolises of Muruddu, Iscala Mugheras and Crabiosu-Istudulè with the homonymous Riparo sotto Roccia (Shelter Beneath a Stone).
The Necropolis of Mandras was first reported by Mario Zaru in 1971, but it had always been visible over the millennia.
The area, yet to be archaeologically investigated, has recently seen the launch of excavation campaigns (November 2023) by the local Superintendence.

fig. 2.154 - Top view of the Necropolis of Mandras – Ardauli

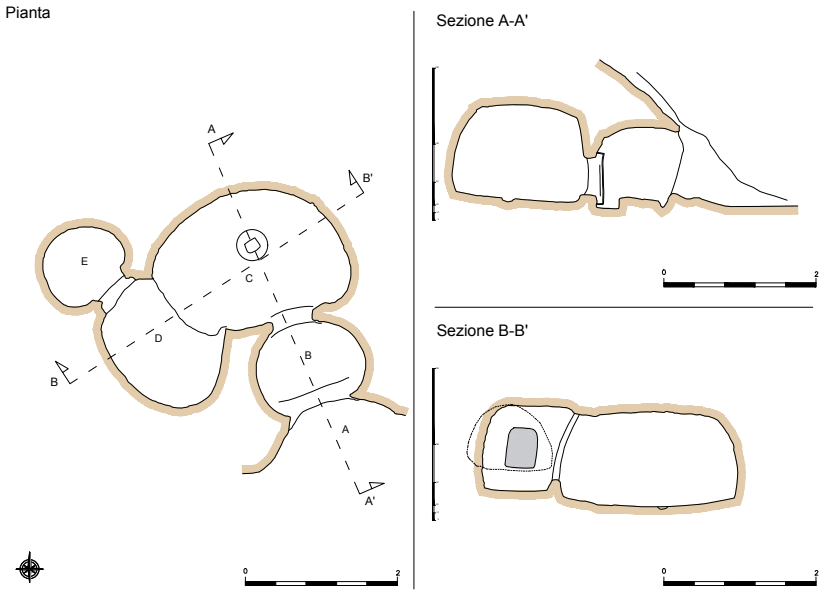


fig. 2.155 - Layout of Tomb I of the Necropolis

Tomb I is accessed from the foot of the rock face; next to it, an attempt to excavate a second cave (Tomb II) is still visible. Raised from the ground, it includes only one very

small room. Slightly to the West, Tomb III is also unfinished; inside the cell, facing East, vertical grooves carved by a pickax are still visible.

Tomb I

The hypogeum consists of a short vestibule, antechamber a, chamber b, and the adjacent room c, that leads to an additional room d.
Part of the floor layout remains in the vestibule; a leak pan can be seen close to the entrance.

The semicircular antechamber is accessed through an irregular opening resulting from the demolition of the door (1.27x0.86 m, h: 1.07 m). The wall is straight at the entrance and sloping in the outside, while the remaining walls are curved. The ceiling is concave in the center and convex close to the walls due to the presence of a groove that, running along the wall, marks the base of the ceiling. In the middle of the floor, flat and painted in solid red, a votive cup stone appears. The door on the back wall leads to a sub-elliptical cell b (2.22x1.60 m, h: 1.24 m); the quadrangular cup stone surrounded by a groove engraved in the middle of the red floor, may be interpreted as the stylization of a ritual hearth (0.17x0.18 m, depth 5 cm).

fig. 2.156 - Painted motifs of Tomb I

fig. 2.157 - Detail of the painted motifs

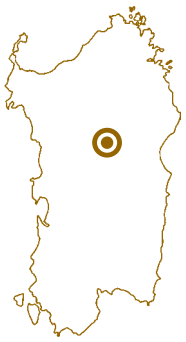
An opening in the wall, made on the west side of chamber b, leads into a bean-shaped room c (1.55x0.80 m, h: 1.15 m) with curved walls and a flat ceiling.
The door on the N wall of room c, leads to room d. The door is framed by a recess with round corners. The room (1.07x0.90 m, h: 0.80 m) includes well-finished curved walls facing the oven.
The architectural motifs, executed and painted using different techniques, include painted representations of two types of ceiling: a conical ceiling in the antechamber on a circular space (2021 Type VI Tanda ceiling), having a double pitched roof with its short sides being apsed in the main chamber.

On the entrance wall and partly on the side walls of the main chamber, there is a "reticulated" painted motif consisting of horizontal and vertical red bands. The pattern is well preserved on the east wall in three overlapping series of panels, continuing above and to the sides of the entrance door with larger panels. The "reticulated" motif seems to replicate the frame of the side walls of the prehistoric hut consisting of poles arranged both vertically and horizontally. At the current state of research, the "reticulated" motif – due to its exceptional size and the fact that it is painted – is a *unicum*.

Based on the analysis of the morphological aspects and decorative motifs, Tomb I is associated with in the final phase of the Late Neolithic Age (Ozieri II culture).

020.
NECROPOLIS OF BRODU

Oniferi



85CF+V9, 08020 Oniferi NU
85CF+R4 Oniferi, Nuoro Province

fig. 2.158 - The environment around the Necropolis of Brudu

The necropolis consists of four multi-chamber hypogea arranged longitudinally, excavated in the slope of the low Brodu hill, where the homonymous nuraghe is located.

Nowadays, the vegetation is characterized by the presence of cork oak, olive, blackberry bushes. Riu Pedrosu flows less than 100 m away. Less than 2 km away, the archaeological area of Sos Séttiles that includes menhirs is worth mentioning. The first reports of the necropolis were made by Lovisato (1886) and Taramelli (1931), who specified the absence of finds. In 1966, Ercole Contu deepened the study of the

necropolis, reported how the tombs had been violated and restored its ancient version, and focused on the art motifs found inside the tombs. Then, the necropolis was studied by several researchers.

The excavation of the tombs is part of the Ozieri culture. The chronological attribution is based on comparisons of floor plans and art motifs with those known in similar archaeologically investigated contexts. The discovery of vessels attributable to the Bell Beaker and Bonnanaro cultures in the 1960s, during surveys, testify to the continuity of use during those periods.

The necropolis consists of four multi-cellular hypogea with longitudinal projection, accessed through a *dromos* and having a simple elongated plan (Type 4, Tanda 2021), that is longitudinal with respect to the rocky outcrop. In Tombs III and IV, carved and painted motifs appear.

Tomb IV

It is the most relevant of the necropolis due to the presence of carved horn-shaped motifs representing a Type XIX Tanda 2021 variety never found anywhere else (2021).

The T-shaped tomb is accessed by a *dromos* (4.50 m) that ends in a pavilion. A trapezoidal door leads to the antechamber. The quadrangular antechamber (length 0.80 m; width 0.97 m; height 1.14 m) has a single sloping ceiling, with an outward slope. On the smooth walls, the marks of the finishing tool and traces of plaster painted in red ocher are visible.

The main antechamber is accessed through a panel from the main chamber. Small niches have been excavated on the sides of the door and on the left wall, two of which have a quadrangular door. On the right wall, there is a quadrangular door suggesting that the excavation

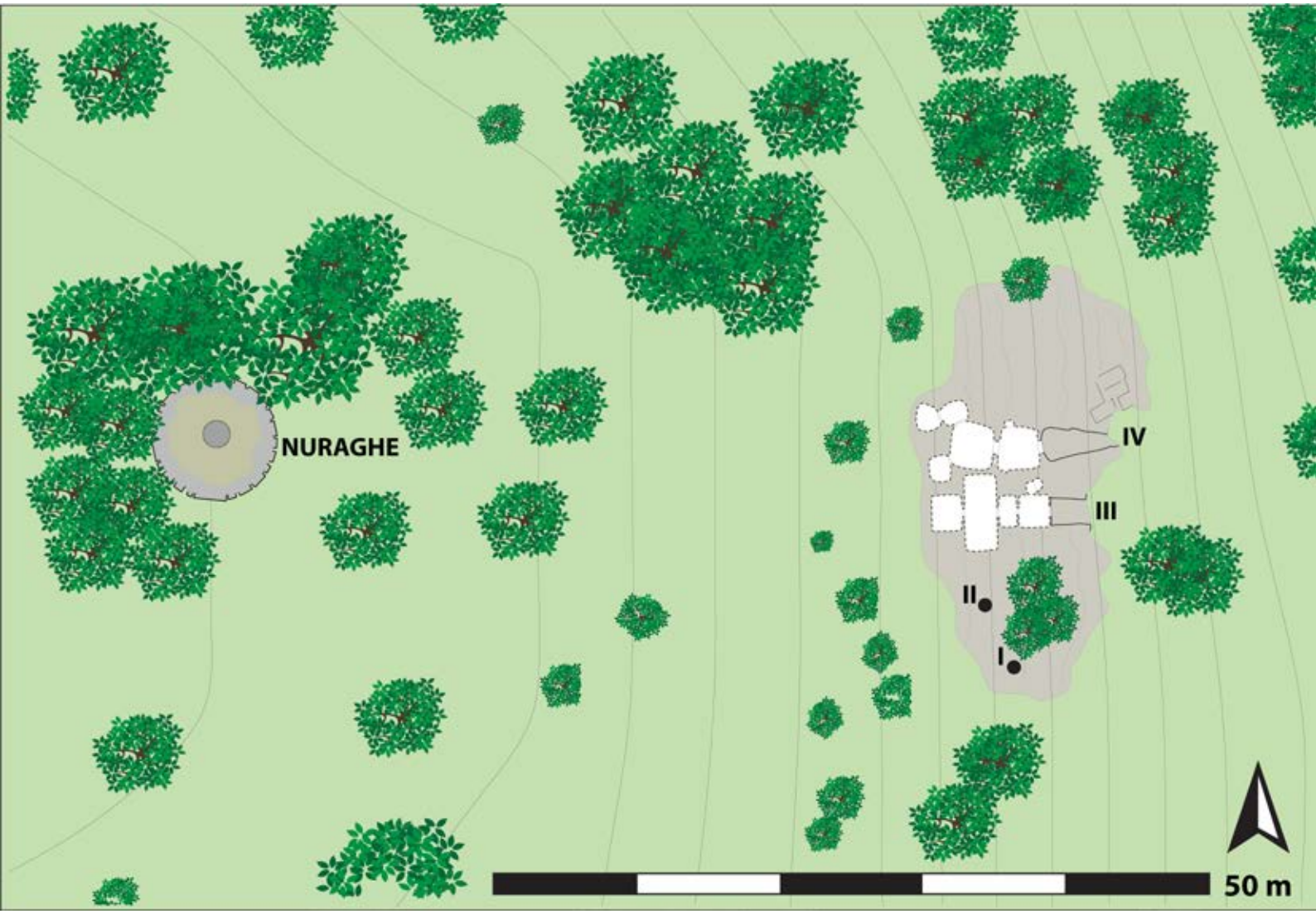
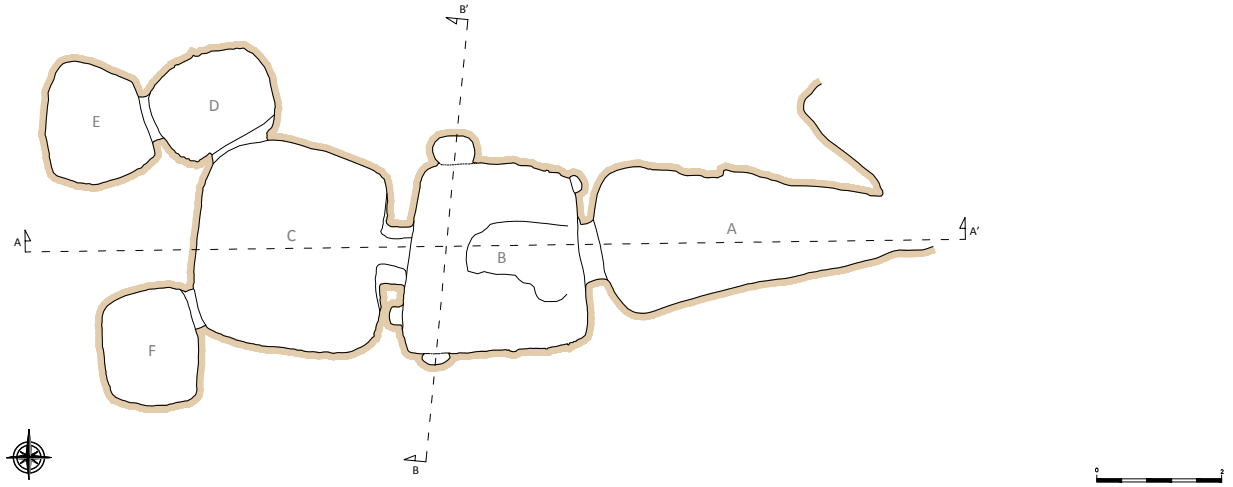
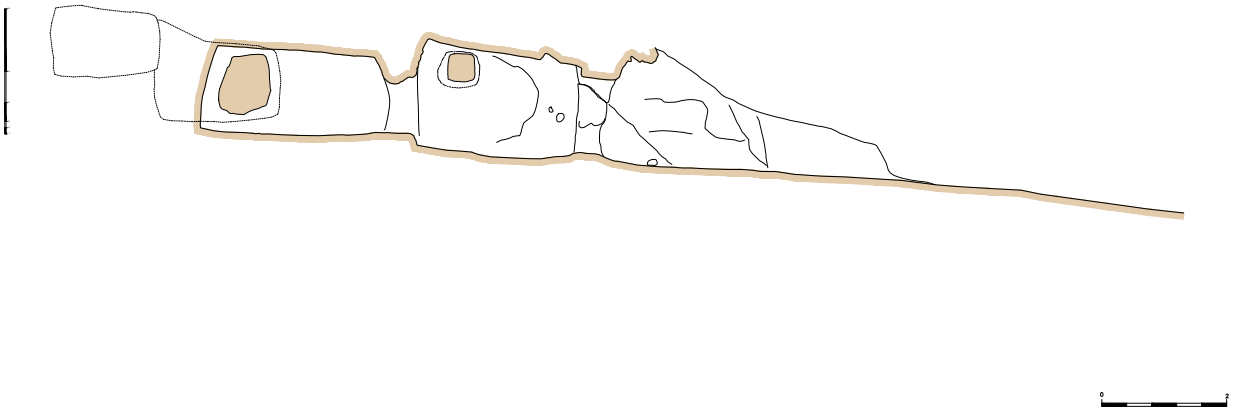


fig. 2.159 - General layout of the necropolis

Pianta



Sezione A-A'



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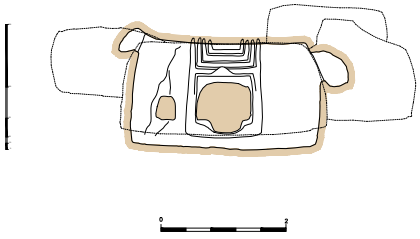


fig. 2.160 - Layout of Tomb IV of the Necropolis

fig. 2.161 - Horn-shaped motif detail on the front wall of Tomb IV

of a chamber had begun and left incomplete.

The access door to the main room is decorated with a relief motif (width 1.09/1.28 m, height 1.52 m), consisting of a carved frame that surrounds the door on three sides and is topped by four stylized bovine horns inscribed on each other. The pattern is arranged according to a series of horizontal, embossed, straight bands that bend at right angles upwards to end in a pointed shape. On the relief, there are still traces of plaster painted in red ocher.

The main rectangular room (length: 3.10 m; width: 2.90 m), has a rectangular layout. On the ceiling, being flat and inclined inwards, the representation of a roof beam is engraved.

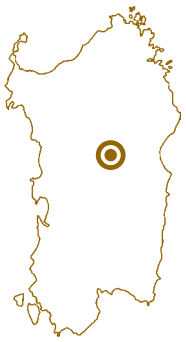
In the back wall, the entrances lead to two other quadrangular chambers.

The cell on the left (length 1.40 m; width 1.95 m; height 1.10 m) is raised above the level of the main chamber, while the rectangular room on the right 1.37 m; width 1.60 m; height 1 m), that is rectangular, lies on the same level.

The room on the left wall features a raised quadrangular door that leads to the last quadrangular chamber of the tomb (length 1.60 m; width 1.77 m; height 0.78 m).

021.
NECROPOLIS OF ISTEVÉNE

Mamoiada



08024 Mamoiada NU

57VR+CR Mamoiada, Nuoro Province

Located in the south-eastern area of Mamoiada, the necropolis rests on the granite slope that dominates the Istevéne basin and the valley crossed by the Riu Conca 'e Bachis from the SE. Today the necropolis area is surrounded by bushes, shrubs and a dense oak forest.
The geomorphological characteristics of the area had favored human settlements since the Late Neolithic Age to date, with almost uninterrupted continuity.

The first information on the necropolis were reported in the List of Monumental Buildings (1922) and in the archaeological maps by Antonio Taramelli (1931); over the years, tombs have been studied by various scholars.
In 2002, the archaeological area was affected by an excavation and renovation carried out by the competent Superintendence. The study of the recovered materials, especially ceramic vases, has allowed the determination of the different phases of use, the origin of the clays used, the types and use of the artifacts, the processing, firing and decoration techniques.
The design of the necropolis is associated with the Ozieri I culture and it was used up to the Nuragic Age, as documented by the materials uncovered in Tomb III and associated with the Ozieri, Monte Claro, Bell Beaker, Bonnanaro, Nuragic (Middle Bronze) cultures.

fig. 2.162 - The environment around the Necropolis of Istevéne

The necropolis consists of six artificial hypogea, known locally as *Concheddas*. They are multi-chamber and one-chamber tombs, including a short *dromos* leading to the entrance hatch.
Tombs III and IV feature painted, sculpted, and engraved artistic decorations.

Tomb III

The tombs includes a dromos (res. length 3.07 m) that is visible only on the left side in an antechamber (1.64x2.73x1.45 m), in a chamber resting on the same axis as entrance (2.15x4.02x1.46 m) and in a chamber (2.02x3.12x0.88 m) on the side of the entrance room.
The plan, that is hard to classify, can be compared to Type VI Tanda (2021).
The rectangular antechamber features vertical walls and a flat ceiling, a cup-and-ring stone on the left, and the remains of a thin layer of red ocher "plaster" on the right. An engraving probably depicting an

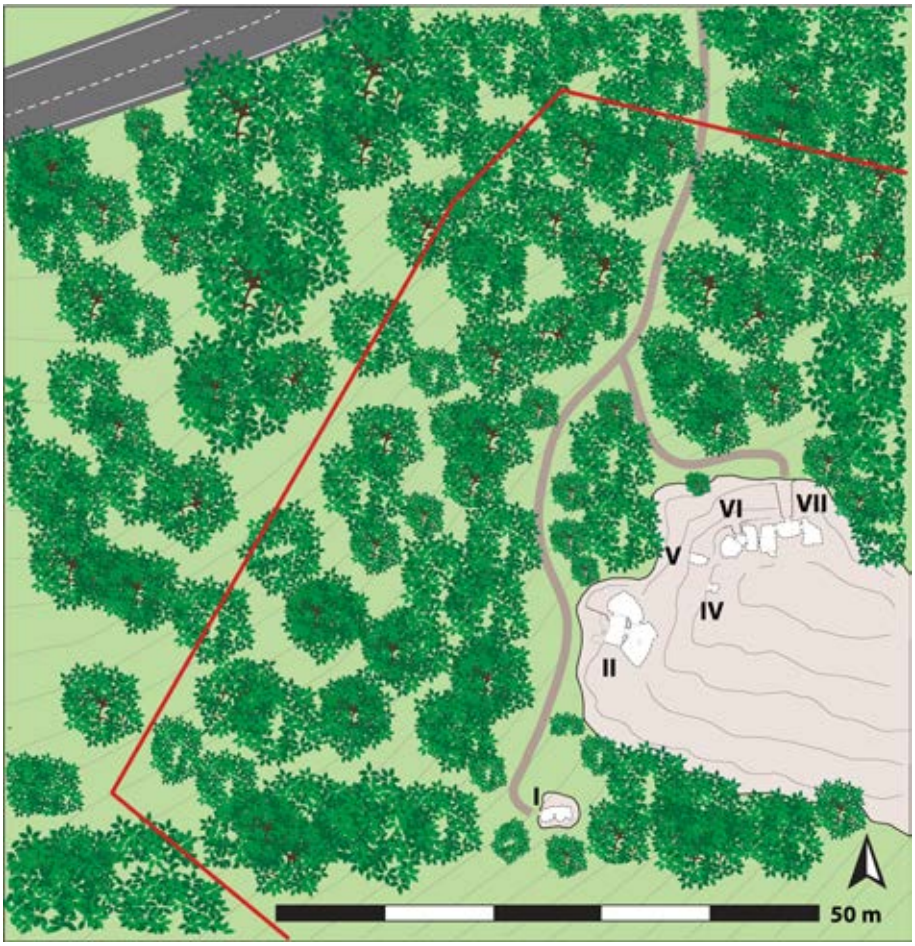


fig. 2.163 - General layout of the necropolis

fig. 2.164 _ Entrance of Tomb III

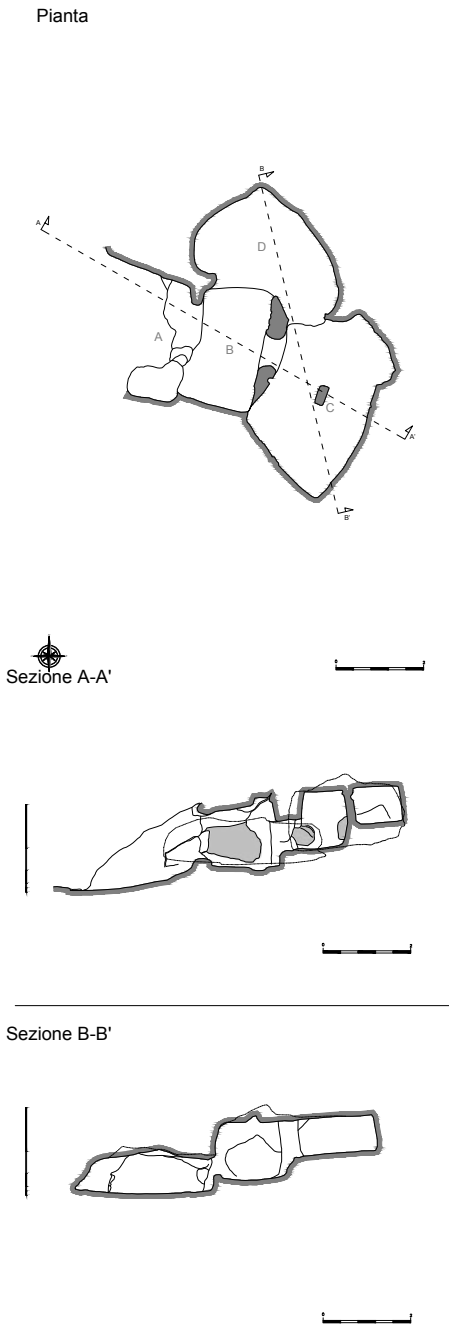


fig. 2.165 - Layout and section views of Tomb III

anchor-shaped anthropomorphic figure is barely visible under it.
The door is decorated by a frame that has preserved only in the upper part, decorated with red ocher; in front of it, on the floor, there is a circular cup-and-ring stone.

The chamber is rectangular, a tilted back wall, a long bench over two thirds of its length, and a pillar with a rectangular section. On the side facing the entrance, the pillar features a horn-shaped motif classified as a *unicum* (Type XIV, Tanda 2021).

It feature high relief straight, schematic motifs; the anatomical details of the bull horns, ears and snout are clearly visible.
The walls feature engraved vertically-ribbed motifs next to each other.
The second chamber has a semicircular, irregular and concave dome. It is placed transversely with respect to the entrance and it leads to the antechamber through a large door

fig. 2.166 _ Entrance of Tomb IV

that is no longer visible as a result of the deterioration of the wall. Also, a door leads to the main room.

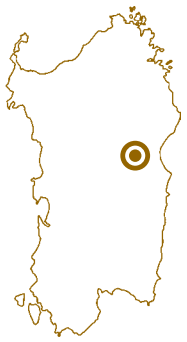
Tomb IV

It was carved in an isolated boulder at the base of the top of the slope. The arched entrance is at ground level and leads to the first of the three rooms that rest next to each other longitudinally.
The current layout has undergone changes due to the various uses over time and the degradation of the rock. However, the essential structure characterized by a longitudinal development, having clear megalithic influence associated with the Copper Age, is clear.
The first room (1.08x1.04x0.93 m) and the second (1.05x1.36x0.93 m) are sub-circular, while the third (1.04x1.04x0.78 m) is slightly squared elliptical shape.
In the antechamber on the left, there is a curved vertical hammer engraving depicting a stylized bull protome: the snout and horns merge in a U-shaped engraving. In some walls there are closely spaced vertical grooves. They have been interpreted as the reproduction of the internal walls of the living huts, made with wooden poles converging in the centre; or as the marks left during the excavation of the tomb's rooms.

fig. 2.167 - Horn-shaped motif detail of Tomb IV

022.
GROTTA CORBEDDU

Oliena



Str. per Valle di Lanaittu, 08025 Oliena NU
7F4P+5H Oliena, Nuoro Province

fig. 2.168 - The environment around Grotta Corbeddu

Grotta Corbeddu is carved in one of the rocky faces of the Lanaitho valley, that extends for about 7 km, located in the last ends of the Supramonte limestone formations.
The cave is not crossed by groundwater, it enjoys extensive visual control over the Lanaitho valley up to its natural entrance, it has good exposure to the sun and winds, and is therefore suitable for human settlement. It consists of three easily accessible rooms, where excavation trials area clearly visible and the exposed sections show the stratigraphic succession that allowed the reconstruction of human presence in the cave from the Late Paleolithic Age.
Therefore, the use of the site has a major educational value to study the methods of the modern archeology.
The investigations carried out at Grotta Corbeddu proved the presence of Sardinian population in phases prior to the Neolithic Age, mainly thanks to the discovery of a maxilla and a temporal bone in Layer 2 of Room 2 (C14-dated about 8750 BP) and a phalanx (22,000 BP). These phases include the tools made of local stone (blades, scrap-

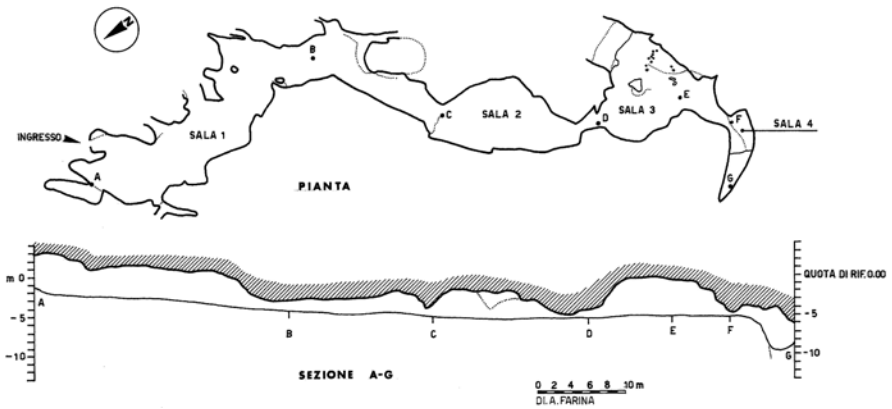


fig. 2.169 - Relief of Grotta Corbeddu

fig. 2.170 - The tour pathway inside Grotta Corbeddu-Oliena, overlooking the archaeological excavation area

fig. 2.171 _ Entrance of Tomb IV

fig. 2.172 - Stairs inside the cave

fig. 2.173 - Section view of the archaeological deposit of Grotta Corbeddu

ers, burins, flaked and indented, dating between 14500-12500 BP and 9000 BP) and the remains of Pleistocene fauna including a lagomorph (*Prolagus sardus*), a canid (*Cynoterium sardous*), two extinct rodents (*Tyrrhenicola henseli* and *Ragamys orthodon*) and a cervid with impressive antlers (*Megaceros cazioti*).

After relocating at two different times (Early Neolithic, C14-dated between 8040±140 BP and Middle Neolithic, between 6260±180 BP), settlers continued to chip the flint and obsidian of Monte Arci to manufacture their tools and weapons for hunting and harvesting.

Animal species introduced in the Neolithic further changed the habitat and eliminate Pleistocene species, with the exception of the *Prolagus*, that became extinct in the Nuragic Age.

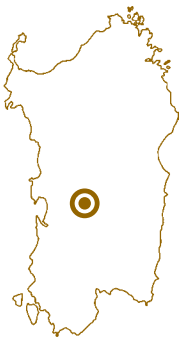
Ceramic vessels featuring the typical elbow loops found in Room 1 document a small human settlement associated with the Bonnanaro culture.

The cave is known for having given shelter to bandit Giovanni Corbeddu Salis (1854-1898), who left the drawing of a scale and his signature.

Having been known since the early twentieth century for the discovery of Pleistocene animals, since 1982 it has been studied during excavation campaigns conducted by the Paul Soondar's team from the Utrecht University, in collaboration with the Archaeological Superintendence for the Provinces of Sassari and Nuoro. The site has uncovered human evidence relating to the Late Paleolithic, Mesolithic, Neolithic, Early Bronze Age and the 19th century.

023.
MENHIR OF CUCCURU TUNDU

Villa Sant'Antonio



09080 Villa Sant'Antonio OR

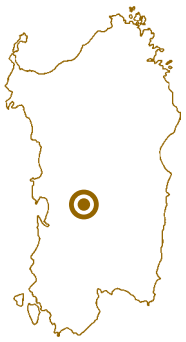
VWG2+8G Villa Sant'Antonio, Oristano Province

The trachyte menhir is located on a hill near the *domus de janas* Necropolis of Is Forrus and the prehistoric village of Genna Storti.
It is a thin monolith (height 5.75 m, circumference at base: 3.27 m), characterized by a semicircular section, with a flat façade facing south featuring three circular cups. The surface is well finished and hammered; the tip is broken and rests close to the base.
Based on the typological analysis and the existing bibliography, the erection of the menhir may be associated with the end of the V-third quarter of the 3rd millennium BCE. (4100-2300 cal. BCE).
The menhirs were thought to be perceived as the dwelling of a supernatural force, a divine being or "heroized" ancestors. Another theory suggests an association between the menhir-fertilizer and the land-fertilized, in the context of the predominantly agricultural economy of Neolithic and Eneolithic populations. The soil symbolizes Mother Goddess who gives birth to the plants which feed human beings. On the other hand, the menhir evokes the male member that, thanks to the soil's mysterious powers, inseminates it: in this way the human and plant cycles are completed.
Another hypothesis suggests that menhirs were used to mark and sanctify particularly important areas: in the villages, they might mark the sacred place near the community or ancient routes; near the tombs, they have a protective function, but also mark a funerary site.

fig. 24a - The Menhir of Cuccuru Tundu

024.
SHELTER OF SU FORRU DE IS SINZURREDDUS AND THE STONE TOOL WORKSHOPS OF SENNIXEDDU

Pau



09090 Pau OR

RQ4G+PF Pau, Oristano Province

fig. 2.175 - The environment around the Shelter of Su Forru de is Sinzurreddus and the Stone tool workshops of Sennixeddu

SHELTER OF SU FORRU DE IS SINZURREDDUS

The natural cave rests at an altitude of 00 m on the NE side of Monte Arci, about 500 m E-NE from the stone tool workshop, with an area of about 20 m². It is named after its elliptical plan with a regular vault that recalls the shape of an oven.
The shelter investigations have been conducted by the University of Cagliari, for the first time, since 2003

fig. 2.176 - Entrance of the Shelter of Su Forru de is Sinzurreddus

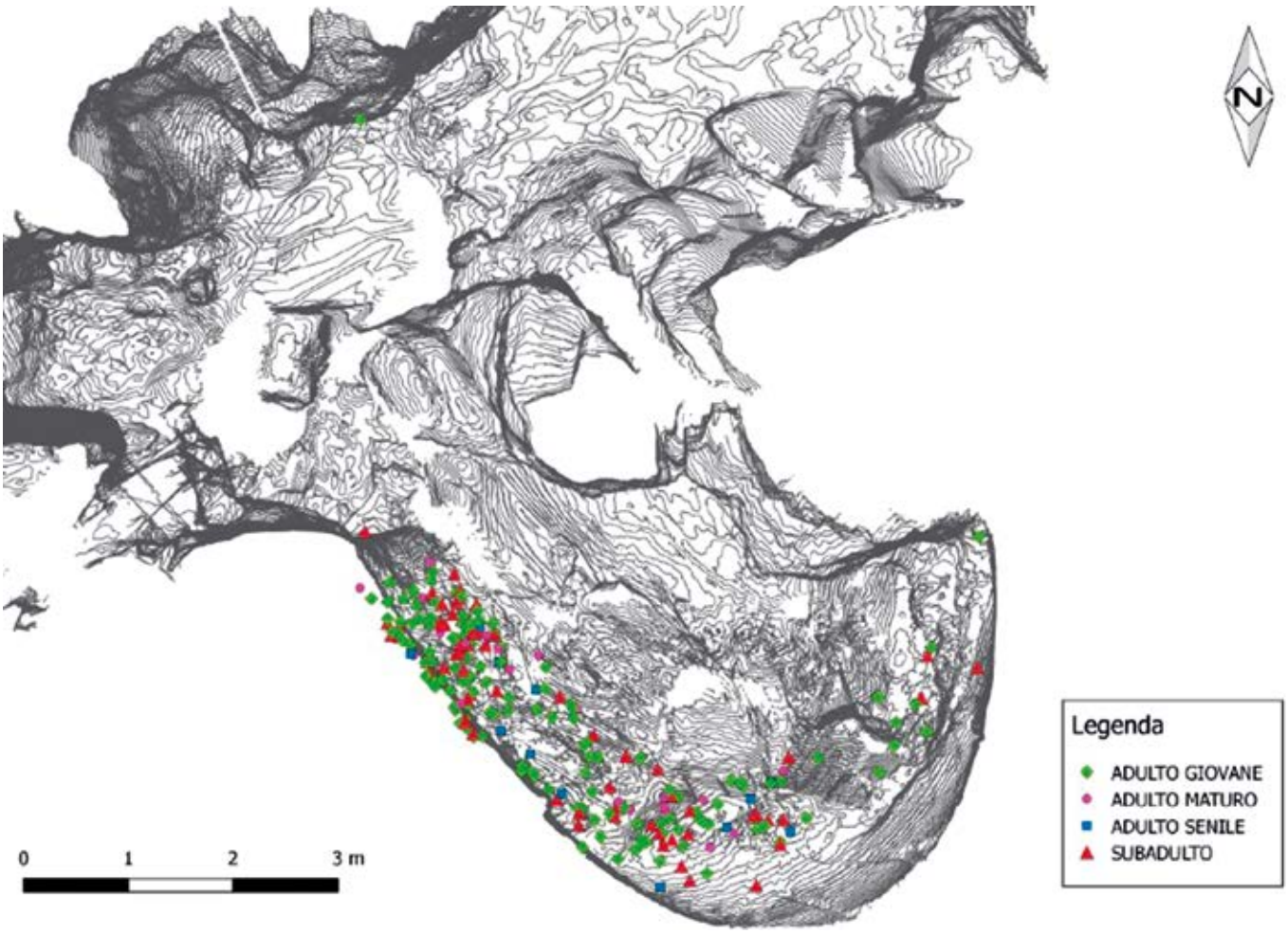


fig. 2.177 - Su Forru de Is Sinzurreddus - Cave A: age distribution of anthropological remains

and have made it possible to attest to the ritual of incineration in Sardinia. The excavation of the deposit down to the bedrock allowed to reconstruct the settlement phases: the oldest one uncovered tombs and materials with San Ciriaco. Among the materials uncovered, there are several disc-shaped biotite beads, similar to those found in the Necropolis of Li Muri-Arzachena.

At the current state of knowledge, the site is the oldest evidence of a stable human presence on Monte Arci, as a result of the discovery of a necropolis hosting a small community. The anthropological study identified the remains of at least 24 corpses, including 18 adults (mostly under the age of 24), some infants and a fetus.

The discovery of different concentrations of combusted bones and artifacts suggested that human remains were deposited inside containers made of perishable material, the degradation of which seems to have led to the progressive scattering of the remains, amplified by the natural deterioration of the cave.

fig. 2.178 - Entrance of the Shelter of Su Forru de is Sinzurreddus

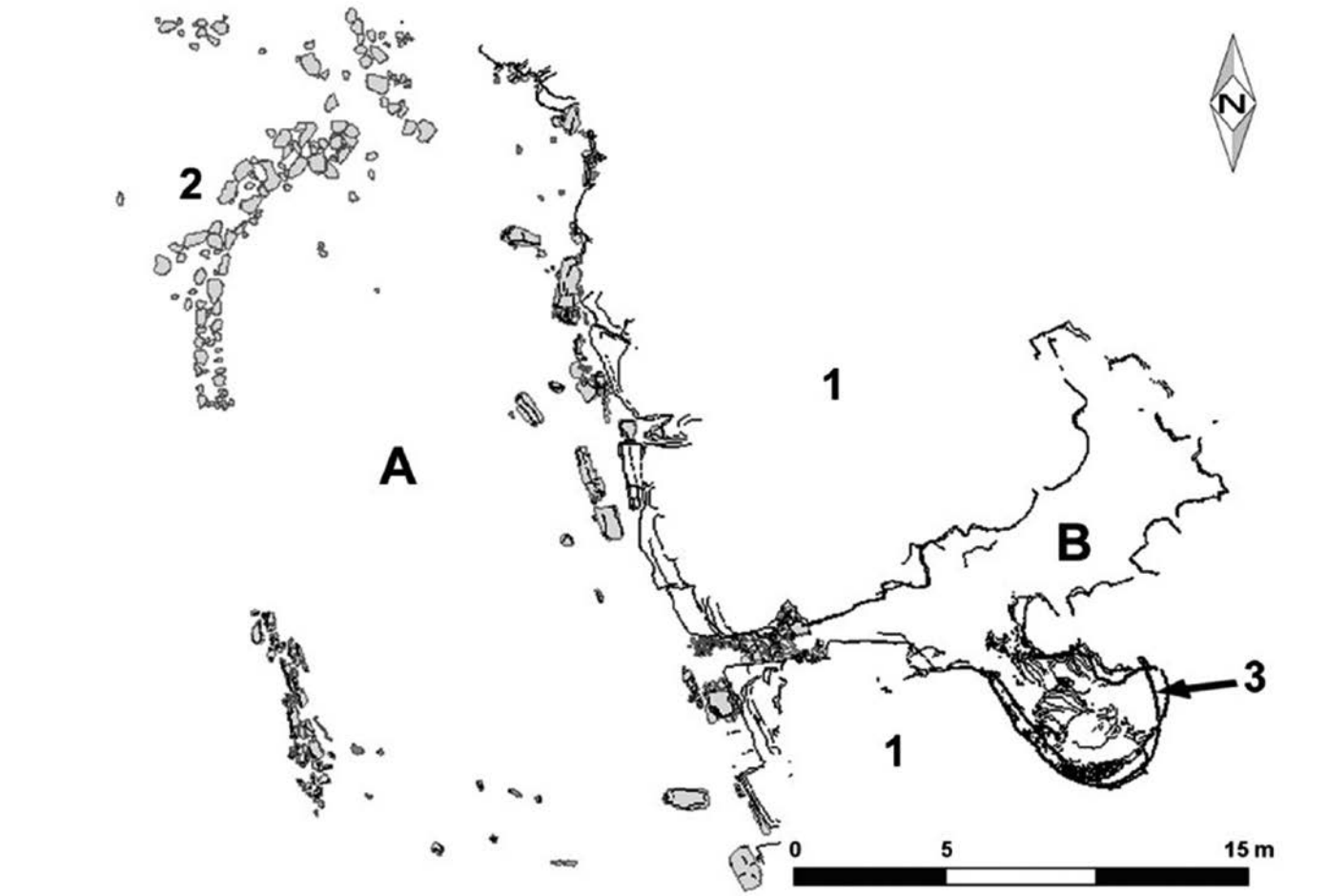


fig. 2.179 - Su Forru de Is Sinzurreddus - general layout. A: Sector W including man-made terraced area and bordered by ancient dry-laid walls (2); B: sector E including the fault area in the rhyolitic dome (1) and the position of Cave A (3)

fig. 180 Top view of the Shelter of Su Forru de is Sinzurreddus and the stone tool workshops of Sennixeddu

fig. 2.181 - Dispersion of obsidian stone chips

STONE TOOL WORKSHOPS OF SENNIXEDDU

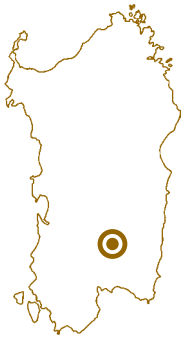
The Sennixeddu workshop is the best known and most easily accessible among the different areas of prehistoric obsidian production preserved in the Pau territory, along the NE side of volcanic range of Monte Arci. The area stretches along the slopes of a deep canal dug by the stream that originates from the spring of Sennixeddu, about 400 m W, at an altitude of about 800 m above sea level.
It was first mentioned by Alberto La Marmora (1839), but it was Cornelio Puxeddu, in 1956, who recognized a prehistoric chipping activity of obsidian on site. Since 2001, the systematic studies of the University of Cagliari have begun. The stone tool workshop is marked by the great amount of waste resulting from the obsidian reduction activity. The archaeological material, mixed with raw material in its natural state, within a deposit about 20 m long and, locally, as deep as 1 m, suggests that the site was used exploited for intensive volcanic glass exploitation during different periods of time.
Around Sennixeddu there is clear evidence of at least five other large obsidian reduction areas, with waste materials reveal an almost perfect concurrence with it.

The obsidian reduced in the workshop of Sennixeddu has circulated for over a millennium in the Tyrrhenian area, promoting innovations and cultural change among island communities through trade. Archaeometric analyses on the origin of the obsidian help reconstruct routes and identify more clearly the forms of cultural interaction between the source and the trade destination from archaeological records.

fig. 2.182 - Obsidian core

025.
ARCHAEOLOGICAL PARK OF PRANU MUTTEDDU

Goni



SP23, 09040 Goni SU

H799+4J Goni, Sud Sardegna Province

The archaeological area is located SW of the town of Goni, in the historical region of Gerrei, on the Pranu Mutteddu plateau, a plateau of sandy and shale rock, about 540 m above sea level, covered by Mediterranean scrub and, in the northernmost area, by oak forests.
Since the 1970s, the site has been repeatedly investigated by Enrico Atzeni in collaboration with the Archaeological Superintendence of reference. A preliminary report on the results of the excavations was published in 1989 jointly by Atzeni himself and Donatella Cocco.
The great formal and structural variety of the monuments currently available, with the combination of hypogeal and megalithic elements, is the result of several construction phases, due to the long-lasting use of the site. Some artifacts found at Tomb II, in fact, seem to indicate phases of planting and use of the area as early as the 5th millennium BCE. Numerous ceramics, then, refer to the full development of the Ozieri culture (first half of the fourth millennium BCE). On the other end, silver beads and flint daggers refer to the Early Copper Age, while sporadic elements date back to the Bell Beaker and Ancient Bronze Ages.
There are different types of tombs, built using local sandstone, which all included containment struc-

fig. 2.183 - The environment around the Necropolis of Pranu

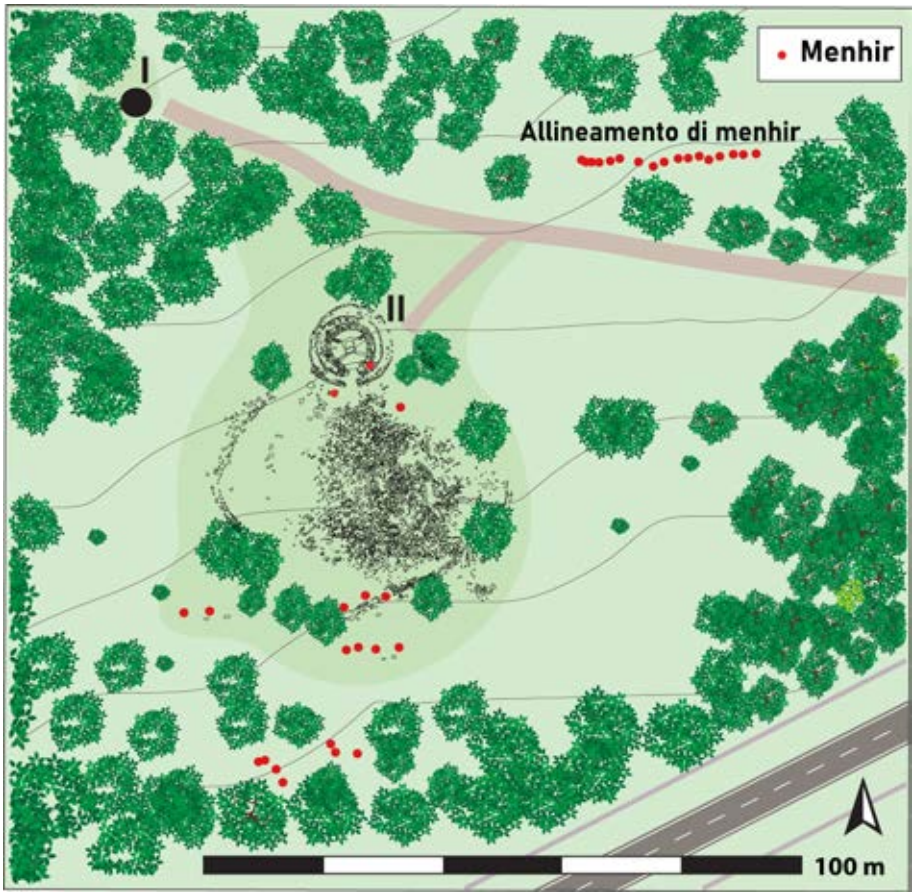


fig. 2.184 - The environment around the Necropolis of Pranu

tures, usually consisting of two or three circular and concentric alignments of boulders, sometimes even with a stepped structure.
They have different interior layouts, different types of burial chambers, arranged in the center of the circular mound, having different shapes and sizes, based on the number of corpses they had to accommodate.
Tomb I is a chamber consisting of a single, rounded room, enclosed by a dry stone walls, while Tomb III is a quadrangular lithic cyst (i.e. a "box" enclosed by stone slabs).
There are also chambers consisting of two rooms enclosed by dry stone walls, the outermost of which serves as an antechamber, arranged according to a scheme typical of the *domus de janas*: Tomb V, referred to as *Nuraxeddu*, consists of a rectangular chamber including medium-to-large square stone blocks.

The area is characterized by the presence of about sixty menhirs. This is a truly remarkable group, that marks a sacred place or a place of funerary worship.
The menhirs are "aniconic", that is, they do not have any representation; they are "protoanthropomorphic", they have an ogival shape, with a flat front face and a convex back face: elements which seem to refer to the human body.
They are made of local sandstone, finely and accurately rough-hewed, and up to 2.50 m high. They are associated with tombs (Tombs II and IV) or arranged in various ways in the area, more rarely isolated, in pairs, in small groups, in small and large rows, with the largest one consisting of a spectacular group of 20.

The structural and layout complexity of the tombs, the collective effort to transport and excavate the large blocks used to build, for instance, Tomb II, the erection of the several menhirs, and the value of many of

fig. 2.185 - Top view of Tomb II

fig. 2.186 - Survey of Tomb II

fig. 2.187 - *Domus de janas* - Goni

fig. 2.188 - Lineup of *menhirs*

the artifacts found in it, seem to testify to the will to celebrate and glorify the individuals buried in the tombs and the social groups the dead belonged to.

Tomb II

The tomb is characterized by its importance and monumental nature: it features elements which are typical of both the previous "circle" tombs and the contemporary *domus de janas*.

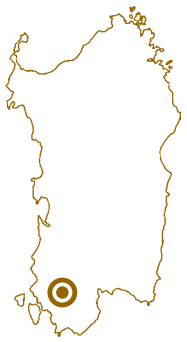
To build it, two huge stone blocks were used, transported from an unspecified location and resting on a carefully prepared bed, following a scheme that is typical of the domus de janas.*domus de janas*.

A dry stone corridor leads to the first excavated and finely finished block that serves as an antechamber; the second carefully dug boulder, placed in the center of radially arranged intermediate partitioned rooms featuring quadrangular doors. The tomb is still partially covered by a stepped circular structure with a diameter of over 14 m surrounded by a larger circle with a diameter of about 35 m. A small menhir is placed at its entrance.

Noticeably, Tomb IV also features three menhirs protecting the tomb on one of its sides.

026.
NECROPOLIS OF MONTESSU

Villaperuccio



09010 Villaperuccio SU

4MJC+CJ Villaperuccio, Sud Sardegna Province

Located in the historical region of Sulcis, it develops at the foot of the southern edge of the Sa Pranedda plateau, that overlooks the Rio Palmas plain. In a strikingly beautiful setting, a natural theater hosts one of the largest and most monumental *domus de janas* necropolises of Sardinia, that was built on the walls of rocky outcrops starting from the Late Neolithic Age.
The funerary complex is scattered along the slopes of two natural basins: the*Su Crabi* basin and the upstream *Su Cungiau de Pittanu* basin. The first investigations were conducted by Vittorio Pispisa in 1969 in the Tomb of Spirals. The archaeological investigations carried out over the years showed that the initial excavation phases and use of the necropolis refer to the Ozieri culture.

The hypogea are scattered in four groups for a total of thirty-five listed monuments, although other tombs could still be covered or hidden by the Mediterranean scrub.
The first group, located in the SE part of the *Su Crabi basin* consists of thirteen tombs (Tombs 1-13); the second, known as *Is Tuttoneddus basing*, includes ten other small tombs (Tombs 14-23); the third is located in the upper basin and includes five tombs (Tombs 24-28);

fig. 2.189 - The environment around the necropolis

fig. 2.190 - General layout of the necropolis

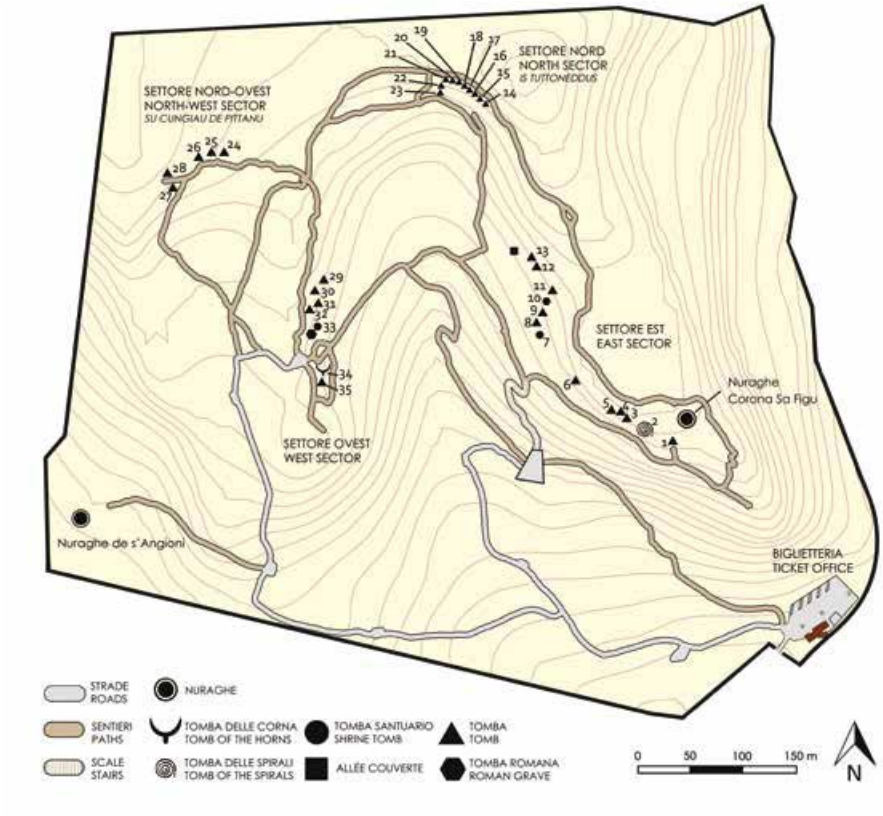


fig. 2.191 - General layout of the necropolis

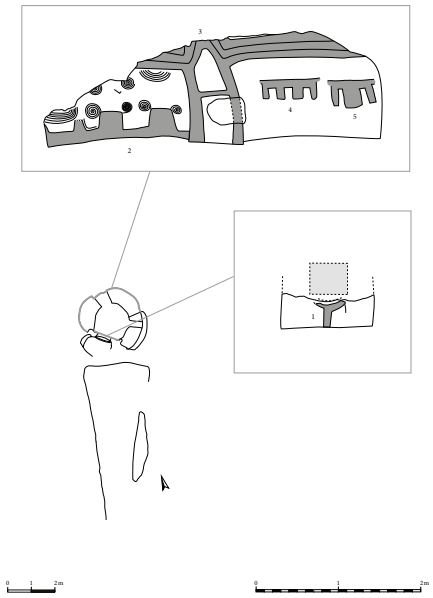


fig. 2.192 - Layout and figurative motifs of Tomb II

finally, the forth cluster includes seven tombs and is located in the western sector of the complex (Tombs 29-35).
Several layouts have been found: single or multi-chamber hypogea, having a flat roofs or semi-domes, sometimes accessed by a corridor (*dromos*) and leading to the pit or horizontal sepulchral chamber. The entrance doors have a rectangular opening, rarely trapezoidal or ellipsoidal, sometimes featuring a sculpted recess to house the panel.
The necropolis is known for the exceptional elements that characterize it, including the presence of three large hypogeal monumental rooms known as "Tomb-sanctuaries": on the eastern side, Tomb VII – known as Sa Grutta de is Procus – and Tomb X; on the western side, Tomb XXXIII, known as Sa Cresiedda.
Tombs VII and X are located on the two opposite sides of the basin and show the same architectural layout: a large rectangular space about 2 m high, referred to as a pavilion, leads to the inner chamber illuminated by two large sub-rectangular openings and a small lower central door. The façade scheme reproduced in these two monuments, is characterized by the presence of pillars or columns carved in the rock of Tomb-Sanctuary XXIII and two pits, perhaps suitable for hosting wooden pillars, in Tomb VII. At the center of the pavilion floor is a cavity used as a hearth. This room leads to the burial chamber, where two benches appear. The monumental character and its position suggest that these two tombs were used as gathering spaces to perform rituals, for burials or celebrations in honor of important members of the community.

The areas in front of the tomb-sanctuary are decorated by single or double rows of monoliths emplaced in the ground to mark quadrangular spaces, separated from each other by straight corridors. The mix of the megalithic and hypogeum styles is also documented by the use of large boulders emplaced at the entrance of various tombs, both as an addition of the corridors carved into the rock to form dolmenic passages and in the form of exedrae.

Lastly, decorative motifs carved and engraved in Tombs II, VI, VIII, XXIV, XXIX, XXXIV, are worth noticing. The red color resulting from the use of ocher is a reference to blood and the regeneration of the deceased, before their encounter with the (perhaps female) deity, based of the discovery of a statue of a mother goddess inside Tomb V and the rare negative representation of the shape of a cross-shaped statue on the walls of Tombs XXIV and VI.

The Tomb of Spirals (II)

It is a two-celled hypogeum with an access corridor carved into the rock where a vertical slab stands on the right side, perhaps related to a structured dolmen-type corridor. An antechamber leads to the oven-vaulted tomb. The semi-circu-

fig. 2.193 - Figurative motif detail of Tomb IV

fig. 2.194 - Figurative motif detail of Tomb XXXIV

fig. 2.195 - Top view of Tomb VII of the Necropolis

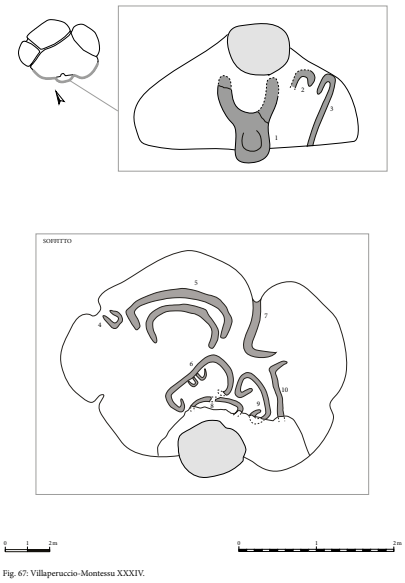


fig. 2.196 - Layout and figurative motifs of Tomb XXXIV

lar burial chamber includes three funerary benches.
Decorative motifs are engraved and carved on the walls. On the left wall of the cell, "dog-tooth" motifs are engraved while, in the sepulchral room, the walls are decorated with horizontal and vertical carved frames that enclose a series of festooned elements featuring semicircles and spirals. A comb pattern is on the left wall of the chamber, while an embossed bull protome is carved below the entrance threshold.

Tomba delle Corna (XXXIV)

It is a small single-room chamber with a pit entrance. It is accessed through a step carved into the rock; the room has a circular floor layout with an oven-shaped ceiling.
Along the floor there are low niches separated by short hafts carved in the rock.
The tomb features artistic representations related to magical-religious aspects.

The decorative motifs are found between the entrance step, where a raised bull protome appears, and the walls of the ceiling, where long and curved horns were carved, isolated or superimposed on each other, of a type that is different from any other known horn-shaped decorations.

a

b

List of attributes

The selection includes all the tangible and intangible attributes that express the exceptional universal value of the finds included in the "Arte e architettura nella Preistoria sarda. Le *domus de janas*".
The attributes meet criteria II, III and VI, based on which this application is filed (see 3.1.b).
The finds selected are clear examples of the cultural events that characterized Sardinia between the 5th and the end of the 3rd millennium BCE. (criterion III); the elements supporting their inclusion will be analyzed in-depth below (see 3.2). In addition, the attributes identified highlight the existence of mutual contacts and exchanges between the populations of the island and those living along the coasts of the Mediterranean and on the European continent, affecting culture, the arts, technology, architecture, and monumental arts (criterion II). On top of that is the role that these monuments play in Sardinia's folk tradition: they are the subject or setting of stories, legends, beliefs, and superstitions (criterion VI).
They have been divided into **tangible attributes** and **intangible attributes**. To facilitate the consultation of the large amount of data available, collected from sector studies, they will be arranged in tables.

A. Tangible attributes

The tangible attributes include physical and material characteristics of the candidate serial site, which are unique and cannot be found anywhere else, preserved in their authenticity and integrity.
Each monumental complex is described according to its architectural

No.	Element Name	Architectural category	Location					Function			Construction techniques		
			Plain / Plateau	Hill	Cliff	Slope / side	Erratic boulder	Civil	Funerary	Worship	Natural	artificial	
												Excavation	Construction
001	Necropolis of Anghelu Ruju	Domus de janas	x						x			x	
002	Necropolis of Puttu Codinu	Domus de janas	x						x			x	
003	Necropolis of Monte Siseri or S'Incantu	Domus de janas				x			x			x	
004	Fortified complex of Monte Baranta	Fortified village consisting of a wall, a tower fence, a village, and a sacred area		x				x		x			x
005	Necropolis of Mesu 'e Montes	Domus de janas			x				x			x	
006	Sanctuary of Monte d'Accoddi	Sanctuary complex consisting of a terrace altar with an access ramp and a village-sanctuary	x					x	(Bonnanaro burial made following the abandonment of the structure)	x			x
007	Necropolis of Su Crucifissu Mannu	Domus de janas	x						x			x	
008	Domus de janas of Orto del Beneficio Parrocchiale	Domus de janas	x						x			x	
009	Domus de janas in Roccia dell'Elefante	Domus de janas					x		x			x	
010	Necropolis of Li Muri	Funerary circles	x						x				x
011	Petroglyph Park	Domus de janas	x						x			x	
012	Dolmen of Sa Coveccada	Dolmen		x					x				x
013	Shelter of Luzzanas	Natural shelter			x				x (postulated)		x		
014	Necropolis of Sant'Andrea Priu	Domus de janas			x				x			x	
015	Necropolis of Sa Pala Larga	Domus de janas				x			x			x	
016	Necropolis of Sos Furrighesos	Domus de janas			x				x			x	
017	Village of Serra Linta	Outdoor village	x					x					x
018	Necropolis of Ispiluncas	Domus de janas			x				x			x	
019	Necropolis of Mandras/Mrandas	Domus de janas	x						x			x	
020	Necropolis of Brodu	Domus de janas				x			x			x	
021	Necropolis of Istevéne	Domus de janas				x			x			x	
022	Grotta Corbeddu	Natural cave			x			x			x		
023	Menhir of Cuccuru Tundu	Menhir		x					x (postulated)				x
024.a	Shelter of Su Forru de is Sinzurreddus	Natural shelter				x			x		x		
024.b	Stone tool workshops of Sennixeddu	Obsidian stone workshops				x		x					
025	Archaeological Park of Pranu Mutteddu	Necropolis including funerary circles and other megalithic elements	x						x			x	x
026	Necropolis of Montessu	Domus de janas				x			x			x	x

category, location, function, construction technique, layout, layout development, type of access, and, if applicable, decoration and decorative motif techniques.

	Layout				Plan		Type of entrance			Decoration				Decorative motifs		
	Stand-alone	Part of a cluster	Lineup	In circle	Compact	Complex	Pit	by a dromos/ corridor	On the ground level	Sculpture	Engraving	Painting	Decorative listels	Figurative	Geometric	Architectural
		x				x	x	x		x	x			x	x	x
		x				x		x		x	x			x		x
		x				x		x		x		x		x		x
				x		x			x	x						
						x		x		x	x			x	x	x
						x			x							
						x		x		x		x		x		x
						x		x		x				x		
	x							x		x				x		
									x							
						x		x			x			x		
	x				x				x							
	x				x				x			x		x		
						x		x		x	x	x				x
						x		x		x		x		x	x	x
						x		x		x	x	x	x	x	x	x
						x			x							
						x		x		x		x				x
						x		x			x	x				x
						x		x		x	x	x		x		x
						x		x	x	x	x	x		x		x
	x					x			x							
	x								x							
					x				x							
									x							
			x			x			x							
						x	x	x	x	x	x	x		x	x	x

B. Intangible attributes

The monuments included in the serial site are local reinterpretations of European **trends**: **hypogeism** and **megalithism**. In addition to their millennium-long **use** for their original purpose, they were often **reused** for the same purpose and **regularly attended** from Prehistory to date. At times, rooms were **re-purposed** and converted, for instance, into Christian chapels or shelters for shepherds and livestock. Their re-purposing has not compromised the signs of the prehistoric phase of the monument and has added additional value to the monuments, which now serve as time-trackers of human attendance over the millennia. Monuments and artistic symbols are associated with a **heritage of ideas and living traditions**: legends and folk tales describe prehistoric funerary hypogea as dwellings of magical creatures, so much so that, since the fourteenth century, in Sardinian they have been known as *domus de janas*. The dynamism and reputation of this oral tradition have been incorporated to date in **non-fiction** and **fiction**.
The identity value assigned to these hypogea is proven by the decontex-

Element No.	Element Name	Cultural phenomena		Reuse
		Hypogeism	Megalithism	
001	Necropolis of Anghelu Ruju	x		x
002	Necropolis of Puttu Codinu	x		x
003	Necropolis of Monte Siseri or S'Incantu	x		x
004	Fortified complex of Monte Baranta		x	
005	Necropolis of Mesu 'e Montes	x		x
006	Sanctuary of Monte d'Accoddi		x	x
007	Necropolis of Su Crucifissu Mannu	x		x
008	Domus de janas of Orto del Beneficio parrocchiale	x		x
009	Domus de janas in Roccia dell'Elefante	x		x
010	Necropolis of Li Muri		x	x
011	Petroglyph Park	x		x
012	Dolmen of Sa Coveccada		x	x
013	Shelter of Luzzanas	x		
014	Necropolis of Sant'Andrea Priu	x		x
015	Necropolis of Sa Pala Larga	x		x
016	Necropolis of Sos Furrighesos	x		x
017	Village of Serra Linta			
018	Necropolis of Ispiluncas	x		x
019	Necropolis of Mandras/Mrandas	x		x
020	Necropolis of Brodu	x		x
021	Necropolis of Istevéne	x		x
022	Grotta Corbeddu	x		x
023	Menhir of Cuccuru Tundu		x	
024.a	Shelter of Su Forru de is Sinzurreddus	x		x
024.b	Stone tool workshops of Sennixeddu			x
025	Archaeological Park of Pranu Mutteddu	x	x	x
026	Necropolis of Montessu	x	x	x

tualized use of their name, "*domus de janas*" being used as a brand and company name, while the symbolic motifs often appear of handicraft products and artistic creations of various kinds.
These monuments are part of Sardinia history, so much so that they evoke the *genius loci* of different locations. The **toponyms** of some monuments, or the areas where they rest, testify to the fact that these places had always been known and attended by local communities.
The interconnection between communities (and individual inhabitants) and such places is undeniable. It is a cognitive bond that attributes an identity value to the candidate monumental complexes and is based on an emotional connection of belonging and familiarity (*sense of place*).

	Repurposing	Sense of place*	Toponymy	Oral heritage
		x		x
			x	x
				x
				x
			x	
	x			x
	x			x
			x	x
			x	
	x		x	x
	x		x	x
	x		x	x
	x			
			x	x
			x	x
	x		x	x
			x	x
			x	x
	x		x	x
				x
	x		x	
			x	x
	x		x	x

2.b History and development

The nominated property, that is, the areas where it rests, are often characterized by a long-lasting continuous use as early as during the Prehistoric period being studied, from the 5th to the 3rd millennium, but reuse and frequentation continued after it, extending in some cases, to date.
At present, there are no known funerary reuses of **dolmens** after the Eneolithic period. On the other hand, more recently, they have been used sometimes as a shelter by shepherds.
The other nominated **megalithic tombs** were not reused in the Early **(Pranu Mutteddu**) and Middle (**Li Muri**) Bronze Age.
The characteristic hypogeal tombs, the ***domus de janas***, sometimes were used for a very long period of time that, in some cases, as the **Necropolis of Anghelu Ruju** shows, covers all the prehistoric cultures, from San Ciriaco to Bonnanaro. A similar situation is also found in the **Necropolis of Sos Furrighesos** and the **Necropolis of Ispiluncas**, both used between the Ozieri culture and the Bonnanaro culture.
The reuses involved the discontinuation or removal of previous tombs and their replacement with new tombs, accompanied by a kit consisting of artifacts (mostly ceramics and stone items) typical of different cultures.
In other places, on the other hand, there are no documented funerary reuses after the period under study, such as **Sa Pala Larga** and, probably, **Pranu Mutteddu**
If available, studies show the continuous use of *domus de janas*: Tomb I of Santu Pedru-Alghero had been used since the fourth millennium to the first four centuries of the second millennium BCE. (almost 2000 years) and Tomb II of the **Necropolis of Mesu 'e Montes** between the 3rd millennium to the first four centuries of the 2nd millennium BCE (almost 1500 years).

In the Nuragic age, the reuse of the *domus de janas* may result in *new excavations;* but there are also cases when a "Nuragic appearance" is given to the Neolithic hypogeum, carving the centred stele of the exedra on the rocky wall that houses the entrance, characterizing the typical Nuragic tombs. The so-called "stone-cut façade" tombs of **Mesu 'e Montes** and **Sos Furrighesos** were built.
However, Nuragic finds within the *domus de janas* are widely documented, even where the original structures are not modified, testifying to the continuity of attendance and the vitality of hypogea in a phase close to history. Noticeably, the presence of Levantine and local artifacts attributable to the ninth century BCE, still unpublished, is reported in some necropolises.
As for the **settlements,** the most favorable areas to human settlement already occupied in the Neolithic, they are subject to resettlement in the following periods of time. The Nuragic complex of Iloi is located a few hundred metres from the **Necropolis of Ispiluncas**; Nuragic materials are documented in **Monte Baranta**; the sanctuary-village of **Monte d'Accoddi** uncovered artifacts relating to visitations which extend to the Middle Ages.
The study of **Su Forru de is Sinzureddus** connect the site to different phases of attendance that extend to the contemporary age, when the cavities still provided a shelter to transhumant and bandit shepherds (**Grotta Corbeddu**).

Monte d'Accoddi.
Archaeologists M. Teresa Amorelli, Tea Coco, Massimo Pallottino, Gennaro Pesce, Giovanni Lilliu and Ercole Contu, at the "feminine" menhir in 1954

In the Prehistory of Sardinia, until the first centuries of the Nuragic civilization, the **sacred** is linked to the worship of the ancestors, which is expressed with the creation of collective tombs, menhirs and menhir-statues and magical-symbolic motifs. After **Monte d'Accoddi** was abandoned, specific worship structures (fountains and sacred wells) were built only between the Late Bronze Age and the Early Iron Age (1200–730 BCE), with new beliefs became popular.
Over the millennia, in particular the areas marked by menhirs have been affected by the construction of sacred Nuragic, Punic, Roman or Christian structures.
The Nuragic people used to bury valuable artifacts for ritual purposes inside **caves** and **shelters**, which had already been used.

In the Punic period (520-239 BCE) the knowledge and attendance of prehistoric monuments is evidenced only by finds of material culture, such as the coin found at the Necropolis of **Puttu Codinu**.
Excavations in Area A of the Pani Loriga settlement identified hut basements resting on the rock-bed under the Punic district. The vessels, connected to the Filigosa and Abealzu *facies*, are consistent with those found inside the nearby *domus de janas*. In the Sacred Area, several cup-and-ring stones and a menhir testify to the survival of the religious value of a place frequented since Prehistory.
The symbol of Tanit was carved upside down, inside a Punic tomb in Monte Sirai. According to some scholars, it was a sign of protection against evil spirits; according to others, it was the craftsman's misinterpretation of a little-known cartoon.
Whatever the reasons, the hypothesis that the stonemason was influenced by his cultural background seems appealing. The symbol of the inverted anthropomorph, an expression of prehistoric religious and funerary beliefs, was visible in several *domus de janas*, known and popular both then and today. It is hard to imagine that, after millennia, the inverted symbol retained its value, but the iconography was probably known and exerted an ancestral and cultural charm.

During the Roman age (238 BCE-456 CE) areas already occupied during Prehistory were resettled or frequented. Material findings testify to the attendance of **Monte d'Accoddi** and the *domus de janas* (**Puttu Codinu**), sometimes reused for funerary purposes as documented in **Sant'Andrea Priu**. Here, near the necropolis, there was also a spa building and a residential settlement with a funerary area.
The rocky outcrops where the hypogea of the **Petroglyph Park** were exploited in Roman times for the extraction of stone blocks or for the construction of facilities; rock millstones are also known in the Necropolis of **Mandras**.
On the limestone plateau of **Su Crucifissu Mannu**, on the other hand, the grooves of the major Roman road that led to Turris Libisonis may be seen.
In the Vandalic and Byzantine age (5th-11th century), some prehistoric monuments were reused by Christians. Several chapels are built near menhirs (San Salvatore di Urzeghe-Florinas, San Michele-Fonni, Santo Stefano-Oschiri) and inside Neolithic hypogea (Tomb X of Santu Pedru-Alghero; the following are worth mentioning: **Tomba della Cava of Mused-du-Cheremule** and **Tomba del Capo of Sant'Andrea Priu**). In some of

those rock churches, burial recesses were dug on the floor.
The discovery of medieval materials in several *domus de janas*, including **Ispiluncas** and **Istevene**, and in the Sanctuary-village of **Monte d'Accoddi** show that the site was known and frequented during that period of

time. The chapel of Tomba del Capo of **Sant'Andrea Priu** was consecrated in 1313, famously known for its wall paintings.

Finally, in modern and contemporary times, some of the confined spaces of prehistoric architecture (hypogea, shelters, caves, and dolmens) were repurposed into shelters, sheepfolds, and barns, evidenced by changes in entrances, closures made by dry-laid stone walls (**Dolmen Sa Coveccada**) and carbon black on the walls (**Sos Furrighesos**).
From the twentieth century to date, the series of excavation, conservation and restoration operations carried out under the direction and responsibility of the Superintendencies - peripheral bodies of the Ministry of Culture - and the promotional activities fostered by local authorities, have increased the knowledge and use of Sardinia's prehistorical monuments by the general public.

History of the studies and research

The most ancient pieces of evidence of prehistoric monuments appear in the *Condaghes*, the inheritance records of monasteries drawn up in Sardinian between the 11th and 13th centuries. In some of the documents concerning the property boundaries, a boundary is marked by a "*pedra*". It is difficult to establish whether these local terms referred to menhirs or natural rocks.
The first document that mentioned the cave church of **Sant'Andrea Priu-Bonorva** dates back to the same period.

Information about prehistoric monuments in literary works diluted over time, only to reappear in the nineteenth century. The dissemination of Alberto Lamarmora's *Voyage en Sardaigne* (1826) introduced European scholars to the island and its antiquities.
In *the Dizionario degli Stati Sardi* 1846), ancient and prehistoric monuments are often mentioned for each municipality. Antonio Bresciani wrote about the "conical, phallic and breast-decorated stones" in the book entitled *Dei*

Costumi dell'Isola di Sardegna (1850).
Father Peter Paul Mackey and Canon Giovanni Spano are worth mentioning:

the latter mentioned the "catacomb" of "Santa Andria Abriu o Priu" (1856).
The decorations inside the *domus de janas* were first mentioned by Antonio Vivanet, who published the **Tomb in the Quarry of Moseddu-Cheremule** (1880).
In the twentieth century, the first scientific studies on the island's antiquities appeared, mainly published by Superintendent Antonio Taramelli. To Taramelli we owe the first analysis of a Sardinian dolmen, the Dolmen of Perda 'e S'Altare-Macomer (1906) and the first published illustrations of sculpted protomes, identified in the *domus de janas* of Sa Pardischedda-Busachi (1904) and **Anghelu Ruju-Alghero** (1909). He also directed

Necropolis of Mesu 'e Montes-Ossi (Archive of the Superintendence of Archaeology, Fine Arts and Landscape for the Provinces of Sassari and Nuoro; 1968-1971)

the excavation of several *domus de janas* necropolises, including **Anghelu Ruju-Alghero** and **Sant'Andrea Priu-Bonorva**. The excavation of Grotta di San Michele di Ozieri (1914), the eponym of the culture dating back to the recent Neolithic, was also carried out by Taramelli.

Later on, all the research, excavations and studies by Giovanni Lilliu and Ercole Contu allowed to expand the knowledge of Sardinian prehistoric cultures, thus placing them in a Mediterranean geographical and chronological framework.
Lilliu first, and Contu later, made a general summary of Sardinian hypogeism, reconstructing its origin, development, chronology and rituals. The works have been enriched, clarified and, sometimes, modified by Giuseppa Tanda.

The excavations in the Sanctuary of **Monte d'Accoddi** and in the *domus de janas* necropolis of Filigosa-Macomer and Abealzu-Sassari, eponymous of two Eneolithic cultures. In the 1950s, the Monte Claro culture was defined. In the 1960s, the discovery of new figurative motifs in different *domus de janas* (including **Tomb Branca and Quarry Tomb-Cheremule**), rekindled interest in prehistoric cultures and their artistic heritage.

In the Seventies, the research conducted on the materials found in the settlement of San Ciriaco-Terralba allowed the recognition of a new culture, dating back to the Middle Neolithic II.

In the Eighties and Nineties, new structures were found, such as the Village of **Serra Linta**, the **Shelter of Luzzanas** and the **Necropolis of Sa Pala Larga**.
Recently, the ongoing research has allowed to significantly increase the number of monuments and known artistic evidence.

USES, REUSES AND RE-PURPUSING

		Cultures / Age										
		Nomination period (V-III millennium)						Next steps				
Part		San Ciriaco	Ozieri	Filigosa - Abealzu	Monte Claro	Bell Beaker	Bonnanaro	Nuragic	Punic	Roman	Medieval	Modern and Contemporary
1	Necropolis of Anghelu Ruju	X	X	X	X	X	X					
2	Necropolis of Puttu Codinu		X	X					X	X		
3	Necropolis of Monte Siseri or S'Incantu		X							X	X	
4	Archaeological complex of Monte Baranta				X	X		X				
5	Necropolis of Mesu 'e Montes			X	X		X	X				X
6	Sanctuary of Monte d'Accoddi		X	X	X	X	(Burial excavated after abandonment)					
7	Necropolis of Su Crucifissu Mannu		X				X			X		
8	Orto del Beneficio Parrocchiale											X
9	Tomba dell'Elefante											
10	Necropolis of Li Muri	X					X	X				
11	Petroglyph Park		X	X						X	X	
12	Dolmen of Sa Coveccada		X	X								X
13	Shelter of Luzzanas											
14	Necropolis of Sant'Andrea Priu		X	X						X	X	X

USES, REUSES AND RE-PURPUSING

		Cultures / Age										
		Nomination period (V-III millennium)						Next steps				
Part		San Ciriaco	Ozieri	Filigosa - Abealzu	Monte Claro	Bell Beaker	Bonnanaro	Nuragic	Punic	Roman	Medieval	Modern and Contemporary
15	Necropolis of Sa Pala Larga		X		X	X						
16	Necropolis of Sos Furrighesos		X	X	X	X	X				X	X
17	Village of Serra Linta	X	X									
18	Necropolis of Ispiluncas		X	X	X	X	X	X			X	
19	Necropolis of Mandras		X									
20	Necropolis of Brodu											
21	Necropolis of Istevéne		X		X	X	X	X				
22	Grotta Corbeddu*	X					X					X
23	Menhir of Cuccuru Tundu											
24.a	Shelter of Su Forru de is Sinzurreddus	X						X	X	X	X	X
24.b	Stone tool workshops of Sennixeddu		X					X				
25	Pranu Mutteddu (Tomb II)		X			X	X					
26	Necropolis of Montessu			X			X	X				X

*Human habitation of Grotta Corbeddu dates back to in Late Paleolithic, Ancient Neolithic (8040±140 BP) and Middle Neolithic (6260±180 from the present) and in the ancient Bronze Age (Bonnanaro culture, 2300-2200 BCE)

2.b.1.

Necropolis of Anghelu Ruju

Alghero

Although, at the time of its discovery in 1903, the tombs were hidden at the ground level, since the first excavations it had been clear that part of them had been looted by explorers "at a very ancient time" (Taramelli 1904). The investigations were carried out on several occasions until the 1990s

Tomb A, that did not have any ceiling at the time of discovery and during the 1936 excavation, was subject to restoration works (1994), focusing on the cohesion of the lateral part of the antechamber and the jamb of the door leading to main chamber, to the calcarenite rock-bed.

Most of the excavation materials have been published and are now preserved in the National Museum of Sassari.

The necropolis, used until the Bonnanaro culture, must have been relevant to a vast village, of which, however, no trace remains, perhaps due to the agricultural reclamation works performed in the first half of the twentieth century.
The surrounding area was deeply attended during the Nuragic period, as evidenced by the presence of numerous monuments from thatperiod. Anghelu Ruju is now one of the most visited prehistoric sites in Sardinia, partly as a result of a large number of excavations, conservative restorations and promotional actions taken by the Superintendence.
The archaeological area is fenced, managed and features paths equipped with explanatory panels.

fig. 2.2b1 - Necropolis of Anghelu Ruju-Alghero (Archive of the Superintendence of Archaeology, Fine Arts and Landscape for the Provinces of Sassari and Nuoro; 1967)

2.b.2.

Necropolis Puttu Codinu

Villanova Monteleone

At the time of the excavation (1987-1988), contrary to what Taramelli (1940) had stated, of the nine tombs included in the necropolis, only two were empty. Although is was affected by repeated looting,the rest returned finds useful for the reconstruction of the chronological phases of the complex.

The tombs were used for a long period, from the Late Neolithic until at least the Roman period, with undocumented breaks, since much of the material deposited in the hypogea is lost.
There is no evidence of reuse in the Nuragic age. The population of the surrounding area is documented by the presence of Nuraghi Maghine Cherchi, Monte sa Rughe, Iscala Casula and Su Pedrosu.

The necropolis was attended in the Carthaginian age, as evidenced by a bronze coin bearing three ears of corn dated 241-238 BCE; a fragment of a black-painted "bell beaker" dating back to the 2nd century BCE is from the Roman age. Both finds come from Tomb VI and are to be connected to the town of Sa Tanca 'e sa Mura, located nearby, characterized by Punic dwellings that lasted until, at least, the late Republican age.
In Roman times, a quadrangular niche was probably excavated outside Tomb VI.

South of Puttu Codinu is the Romanesque church of Nostra Signora di Curos, including the remains of a medieval village.

In the years following the excavation, operations were conducted on fences, the arrangement of the archaeological area, and the placement of tourist signs and an educational panel, aimed at facilitating use by the public. The site is now managed by a cooperative.

fig. 2.2b2 - Necropolis of Puttu Codinu-Villanova Monteleone (Archive of the Superintendence of Archaeology, Fine Arts and Landscape for the Provinces of Sassari and Nuoro; 1971)

2.b.3.

Necropolis of Monte Siseri, i.e. S'Incantu

Putifigari

Following its discovery (1987), the necropolis was investigated by the local Superintendence (1989).

Of the three known tombs in the necropolis, Tomb I has undergone consolidation, conservative restoration and enhancement. To prevent rainwater and animals from entering in the antechamber, where the ceiling is missing, a protective structure was built in 1990, equipped with a double-sloping tile roof, sealed with a metal hatch.

Following the vandalism that damaged the decorated false door on the back wall of the chamber, the funerary structure underwent a new restoration and the tomb area was arranged and delimited with dry-laid stone walls. The Nuragic attendance of the area is documented bythe nuraghi of Giovanni Cuzo, Monte Mesu and Sa Cordiola. Reuses or attendance during the Roman and Middle Ages have been reported, but the materials are not published.

The necropolis is unattended and is currently closed. In the future, it will be reopened and assigned to a managing company.

2.b.4.

Archaeological complex of Monte Baranta

Olmedo

The complex, also known as *Su Casteddu*, "the castle", was initially reported to be from the Nuragic Age (Contu 1967).
Then, excavation data allowed the structures to be attributed to the Eneolithic age of the Monte Claro culture and made it possible to rule out the hypothesis that it was abandonment under dramatic state of the settlement, where building were yet to be completed. In addition, reuses of the tower-fence during the Nuragic period and in historical times have been documented. From 1992 to 2015, the archaeological area has been cleaned and fenced weeded; surveying, consolidation, and conservative restoration activities have been carried out by the local Superintendence and the Municipality of Olmedo, which has developed and pursued an active policy to promote the complex.

The archaeological area is fenced and, by 2024, it will be opened to the public, and equipped with new signs.

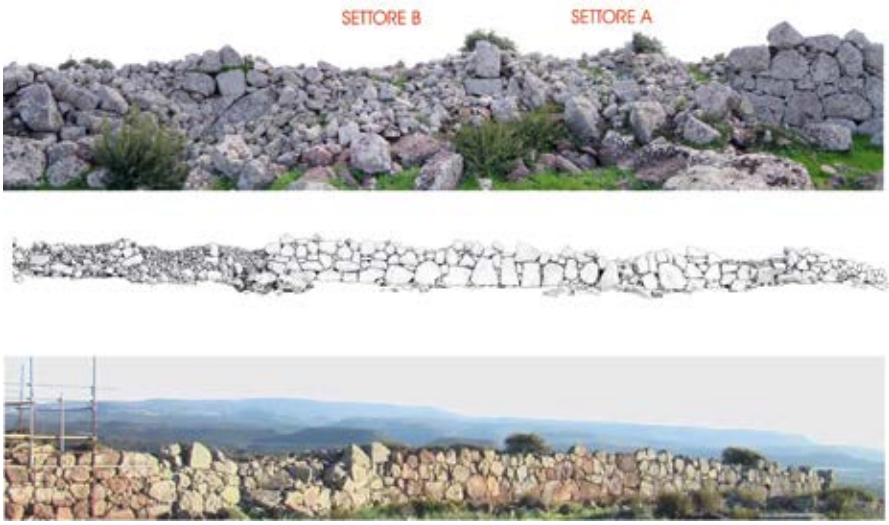


fig. 2.2b4 - From above: collapsed portions of the construction site; Survey; Ongoing wall restorations

2.b.5.

Necropolis of Mesu 'e Montes

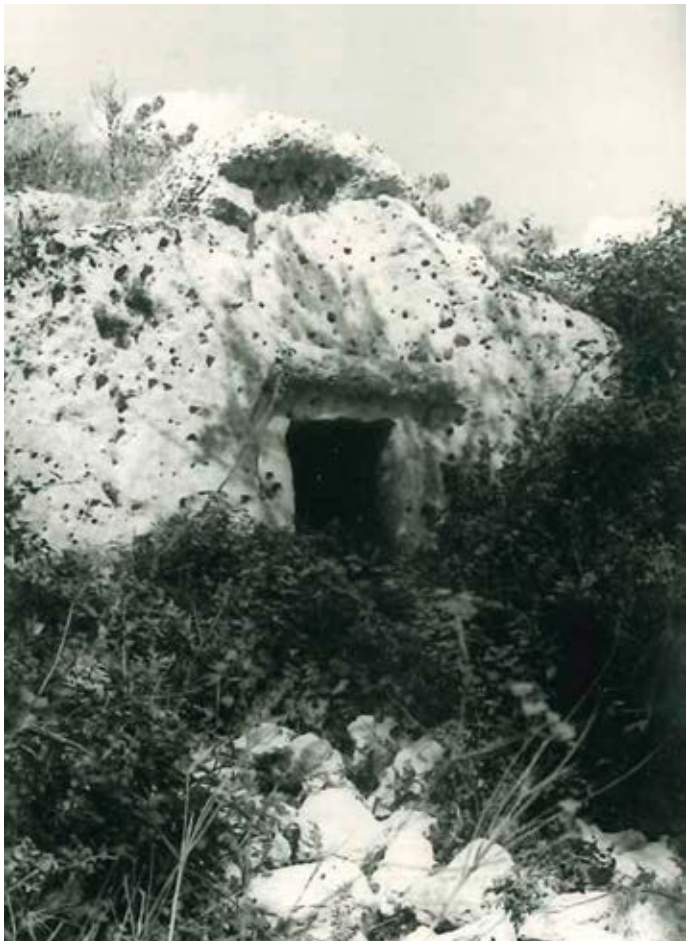
Ossi

The first seven hypogea were identified by Contu (1968). At the time of the discovery, Tomb IV was almost buried, while most of the other tombs had no archaeological remains.
Tomb II is the only one to have been excavated (1985). After the last reuse during the Bonnanaro culture, the hypogeum seems to have been abandoned until the Middle Ages, evidenced by the discovery of a jug fragment.

The necropolis was cleaned, the pathways were fixed and the study activities were established (1994-1998): Tombs IV and XVIII were identified and the Ossi local permanent exhibition was set up at Palazzo Baronale. The places of archaeology (1997).

No restoration or consolidation have been carried out.
The "architectural elevation" of Tombs III and XVI is the result of Nuragic renovations of Neolithic hypogea. There is no known Giant's Tomb in the area, testifying to the vitality of the hypogean tradition in the Bronze Age.
Tombs VI, IX, X, XI, XII show extensions and tampering of the basic layout because they were reused, until the twentieth century, as livestock shelters.
The complex is unattended, but it can be visited by reservation. Full use of the site will be ensured in the near future.

fig. 2.2b5 - Necropolis of Mesu 'e Montes-Ossi (Archive of the Superintendence of Archaeology, Fine Arts and Landscape for the Provinces of Sassari and Nuoro; 1968-1971)



2.b.6.

Archaeological complex of Monte d'Accoddi

Sassari

The last piece of evidence form the archaeological complex of Monte d'Accoddi, found in the area referring to the period under study consists of a tomb dating back to the Bonnanaro culture, which shows that the area had been abandoned by the time excavations started.
Before the excavations, the monument looked like an isolated hill. During WWII, the area had hosted a military post that had left, on the sides of the hill, a circular trench.

The first excavations (1952-58) showed that the hill was not the result of the ruin of a nuraghe, but an artificial relief formed by the remains of an exceptional temple structure.
In the Eighties, the site was affected by new excavations and the following restorations. Another restoration work dates back between 2007 and 2010.
From the village-sanctuary come few finds of the Nuragic, Phoenician-Punic (vague necklace in glass paste), Roman (glass and coins) and medieval (bronze ring with the Greek letters Alpha and Omega, symbol of Christ).

The surrounding area has been resettled in the Nuragic age, as evidenced by the presence of nuraghi that thicken along the edges of the ridges that surround the loops of Rio Ottava. For the Roman age, we know the *Villa* of Ponte Giogante. Roman and medieval materials have also been recovered in the *domus de janas* found in the area.
A selection of the materials found in the excavations is now on display at the National Museum of Sassari.
The archaeological area is fenced and it features paths equipped with explanatory panels. The management of the site is entrusted to a cooperative.

fig. 2.2b6 - Sanctuary of Monte d'Accoddi-Sassari. Monte d'Accoddi. View of the hill from the southwest before the Contu excavations; Aerial view before the Tinè excavations; Aerial view from the north

2.b.7.

Necropolis of Su Crucifissu Mannu

Porto Torres

The Necropolis of Su Crucifissu Mannu was found in 1956 during the construction of the Porto Torres aqueduct.
The tombs were excavated over four excavation campaigns (1956 – 1981). Ferrarese Ceruti is responsible for defining the chronological phases of the necropolis and the funerary rituals adopted during the most recent reuses, dating back to the Bonnanaro culture.
Like the other necropolises in the area, it is related to the Sanctuary of Monte d'Accoddi, although Su Crucifissu Mannu lacks evidence of the San Ciriaco culture while there are numerous tombs dating back to the Bonnanaro culture.
Sporadic and non-continuous attendance to the Nuragic age are evidenced. In the Roman period, the area was used as a quarry for the extraction of stone and to build road to and from *Turris Libisonis* (Porto Torres): the parallel grooves visible on the rocky plane where the necropolis rests are indeed evidence of Roman and medieval carriageways.
The complex is unattended, but it can be visited by reservation. In the future, the site will be managed and fully usable.

fig. 2.2b7 - Necropolis of Su Crucifissu Mannu-Porto Torres (Archive of the Superintendence of Archaeology, Fine Arts and Landscape for the Provinces of Sassari and Nuoro)

2.b.8.

Domus de janas of Orto del Beneficio Parrocchiale

Sennori

The first pieces of reference on the domus de janas of Orto del Beneficio Parrocchiale were published by Chelo (1952-54) and Lilliu (1957).
The chronological definition of the excavation of the chambers and the subsequent operations is uncertain, because no diagnostic archaeological materials have been found.

The hypogeum has been used as a quarry and a shelter until the twentieth century.

The Nuraghe of *Sa Patad*a, the Punic Fortress of Monte Cau, the medieval village of Gennor and five churches testify to the human settlement in the territory: San Basilio Magno, Santa Croce, Santa Lucia, Rosario, San Biagio.

The necropolis is embedded in the urban context of Sennori and can be visited freely. The archaeological area is fenced and access is regulated by the Municipality. In the near future, the site will be operational.

2.b.9.

Domus de janas in Roccia dell'Elefante

Castelsardo

Vittorio Angius reports the presence of "fairy rooms" in an isolated boulder near the Paddaggiu nuraghe (1837). In 1914, Edoardo Benetti first associated the morphology of this rock shaped by erosion with the shape of an elephant. (1914)
Previously, the boulder had been known as *Sa Pedra Pertunta*. This name is reported by Lovisato (1887) and Taramelli (1926) and appears in two documents relating to land donations made to the Church of Santa Maria di Bonarcado (1147) and to the monastery of Nostra Signora di Tergu (1153).
The hypogea have not undergone structural or decorative changes, with the exception of weathering.
No stratigraphic excavations have been carried out, as the tombs do not include any archaeological deposit and there is no spread of archaeological material in the area.

During the Roman times, <n important coastal road, coming from *Turris Libisonis*, passed through this valley and headed towards Gallura. A landing place was founded in Cala Ostina. The name, that is typical of the ports built at the mouth of a river, such as Ostia, and the archaeological evidence testify to the intensity of maritime traffic.

In the Middle Ages, the community of the valley gathered in the village of Mortedu (nowadays, Multeddu), mentioned in the 12th-13th centuries and in the first half of the 14th century. The village was crushed as a result of Saracen attacks.

The site is unattended and can be visited free of charge; it is not clearly marked, but is easily identified by its location. In the future, the management of the site will use its full potential.

2.b.10.

Necropolis of Li Muri

Arzachena

A year after the discovery, the first excavations began in 1940, then resumed in 1961. In 1994, during the excavation of Tomb V and the worship enclosure between the funerary circles, operations were carried out to consolidate the structures (1999).

The latest use of the *allèe couverte* documented the exploitation of the area in the Nuragic age, dated back to the Middle Bronze Age; several Type B worship circles are located close to it.. About 200 meters from it rests the Giants' Tomb of Li Lolghi. Its excavation uncovered materials attributable to a period between the Early and the Late Bronze Age.

In the area there are also several *tafoni*, that is, cavities formed in the granite; one of them was used as a shelter by shepherds until last century.

The complex is marked by road signs. The site has been attended and it has been musealized and equipped with various services.

2.b.11.

Petroglyph Park

Cheremule

fig. 2.2b11 - Necropolis of Moseddu, Petroglyph Park-Cheremule (Archive of the Superintendence of Archaeology, Fine Arts and Landscape for the Provinces of Sassari and Nuoro; the Sixties)

The tombs, known since the nineteenth century, have always been exposed to view and to anthropogenic and natural agents. The archaeological deposit has been preserved in a few cases. The excavations began in 1965 and have allowed the recovery of finds of historical and, rarely, prehistoric age.

To testify to the Nuragic occupation of the plain of the Park are located, Nuraghi Mattarigotza, S'Unza, Cunzadu and Rocca Manna stand out.

In the Roman period, quarrying and wine-making activities were evidenced in the Necropolis of Museddu. The quarry has affected several tombs, including Tomb X. The wine-making facilities can be seen in the area of Tombs XI, XIII and XVI and consist of fences, communicating tanks, gutters and cisterns, and are linked to the nearby countryside settlement of Balducciu.

In the vandalic or Byzantine age, the area recovered its original funerary function. Indeed, the Tomb of the Quarry, that owes its name to the traces left by ancient mining works, was converted into a sepulchral chapel through the demolition of the front wall.

Tomba Branca was violated in ancient times. There are clear traces of renovation on the left side of the *dromos*: they included are interrupted cuts impossible to locate chronologically, certainly subsequent to the Eneolithic.

On the top of the limestone counter of the Necropolis of Museddu, in the northern area, rectangular recesses were created in the early Middle Ages, which were to have a cover plate. Possibly that a settlement area developed near the Santu Miali area.
In 2006, the Municipality started to promote the area. In 2013, the Petroglyphs Park was created, thanks to a project financed with regional funds. The archaeological complex is well marked by roadsigns and it can be visited by contacting the Municipality. Restoration and consolidation are planned.

2.b.10.

Sa Coveccada Dolmen

Mores

Giacomo Calvia published the dolmen in 1905. In the 2000s, the loval Superintendence carried out cleaning, consolidation and conservation restoration operations on the monument. A new restoration project is underway, which includes the replacement of the protective cover present today.

There is no known funerary reuse after the Eneolithic.
Nuragic attendance is evidenced by the Todorache, Sa Cuguttada, Mendula and Ispaduledda nuraghi.

In the modern and contemporary era, the dolmen was used as a shelter by transhumant shepherds, who probably closed the monument with dry stone-laid masonry.

2.b.13.

Shelter of Luzzanas

Ozieri

At the time of discovery, the shelter did not retain any archaeological deposit that could allow a stratigraphic excavation and the recognition of phases of attendance.

A human settlement in the area in the Bronze Age is attested by the presence of the nuraghe in Luzzanas.

In the Middle Ages, the village and the Romanesque basilica of Bisarcio were built, the latter being the headquarters of the Diocese of *Bisarchium*, documented since from 1065 to 1503, when it was incorporated into the Diocese of Alghero. Bisarcio was a flourishing cultural and religious centre and the basilica was part of a building complex, with a bishop's and canon's palace.

The site is currently unattended and can be visited free of charge.

2.b.14.

Necropolis of Sant'Andrea Priu

Bonorva

The name of the necropolis was mentioned in the 11th-12th century in *Condaghe di* San Pietro di Silki. The first descriptions are by Angius (1834) and Spano (1856). All the hypogea were looted in ancient times.

Sant'Andrea Priu is located on the edge of the "Valley of the Nuraghi": there are at least 60 nuraghes only in Bonorvese territory. Closest to the site, there lies Nuraghe S'Elighe and Nuraghe Monte Donna. More distant, to the east, is the sacred fountain of Su Lumarzu.
A short distance away is the Necropolis of **Sa Pala Larga**, as illustrated below.

The attendance of the territory in the Punic and Roman ages is witnessed by the fortification of San Simeone, the necropolis and the milestones referable to the road that connected *Karales* and *Olbia*.

The medieval village of Rebeccu and the Romanesque church of San Lorenzo are about 4 km away.

Since 2002, the operations of the Superintendence have highlighted the remains of a rural settlement, placed at the foot of the rocky ridge and inhabited until the sixth century AD. The Roman funerary in this age, extended to the nearby medieval Church of Santa Lucia that was redesigned several times.

The pit tomb dug into the floor and the two open niches on the wall of the chamber of Tomb V (Tomb in Capanna) are modifications of Roman or medieval times.

In Tomb VIII (Chamber Tomb), a pit tomb was excavated in the late Roman age in the floor plan of the chamber. The loculi excavated in the wall facing the entrance are, on the other hand, early medieval.

The conversion of Tomb VI (Cape Tomb) into an early Christian church involved the conversion of the three main rooms of the tomb into a narthex, classroom and presbytery, equipped with a skylight. An early altar was erected, moved after the tenth century to the south-east wall, after the excavation of an apse. In the Byzantine age, two tombs were dug in the narthex.
In 1313, the Bishop of Sorres, Guantino di Farfara consecrated the church, naming it after Sant'Andrea. The different layers of plaster of the pictorial cycle, depicting some important episodes of the New Testaments, testify to the continuity of use of the church from the first centuries of Christianity to the Middle Ages.
Today, in the rock-bed, the marks form the quarry of the second half of the twentieth century are still visible.

The archaeological area is well marked by posts, attended, fenced and equipped with visiting routes.

fig. 2.2b14 - Necropolis of Sant'Andrea Priu-Bonorva (Archive of the Superintendence of Archaeology, Fine Arts and Landscape for the Provinces of Sassari and Nuoro; the Sixties)

fig. 2.2b14 - Necropolis of Sant'Andrea Priu-Bonorva, details of the pictorial cycle of Tomb VI (Cape Tomb)

2.b.15.

Necropolis of Sa Pala Larga

Bonorva

At the time of discovery (1997), most of the tombs had a partial interruption. It is possible that the continuation of research in the area will lead to the identification of new hypogea.

Since 2007, the necropolis has been the subject of archaeological investigations, on several occasions. The materials found in the excavation of Tomb II have also made it possible to document a phase of reuse of the hypogeum in the Bronze Age..
At the moment, no evidence of attendance of the hypogea after the Nuragic age has been published.
The materials, kept at the National Museum of Sassari, have not yet been musealized.

Non-invasive analyses of the microclimate in Tomb VIII were carried out for the purpose of preserving the painted surfaces.

The necropolis is inside the Parco di Mariani. It can be reached by walking along the road to the hunting estate commissioned by Margherita di Savoia, managed by the Forestas Regional Agency.

2.b.16.

Necropolis of Sos Furrighesos

Anela

fig. 2.2b16 - Necropolis of Sos Furrighesos-Anela (Archive of the Superintendence of Archaeology, Fine Arts and Landscape for the Provinces of Sassari and Nuoro; the Seventies)

The data of the excavations, which began in the 1970s and were completed in 2011, show phases relevant to the Neolithic, the Aeneolithic, the Bronze Age and historical ages, possibly medieval.

During the Bronze Age, animal patterns were engraved so that they occupied the space left free by the previous engravings.

In the tombs featuring petroglyphs (VIII, IX, XI and XV), figures are superimposed, thus documenting how they were made at different times, up to the historical age, when linear *polissoir* and dotted motifs, are attributed and visible, for example, in Tomb IX.

In the Middle Bronze Age, the antechamber was demolished and the architectural façade and the access trench featuring pedaroles of Tomb IX were built.

In the contemporary age, the connection of Tombs VIII and IX was made following the demolition of the shared wall and the four steps to access the counter to the left of the main chamber.

The area in front of Tomb IX uncovered materials from the Roman-Imperial Age and recent times.

In 2012, restoration and consolidation works were carried out in Tomb XV: a protective cover, the sanitation of water infiltrations and the restoration of the walls of the *dromos* and the antechamber affected by twentieth-century quarrying activities.

In the twentieth century, the hypogea were reused as a storage and shelter for livestock. That period witnessed the enlargement of the doors, the excavation of recesses in the walls, traces of carbon black and paint; as well as the disappearance of two polissoir engraved motifs of a cervid caused by grave looters, and of a boar (?), evidenced by photographic documentation.

The materials found in the necropolis are in the depot of the Sanna National Museum in Sassari. No artifact has been musealized so far.

In the surrounding area there are several nuraghi, while there are no known monuments of historical age.

The site is unattended and can be visited free of charge.

2.b.17.

Village of Serra Linta

Sedilo

The Tirso river plane offers an ideal place for human settlement. The area is characterized by the presence of numerous monuments referable to a wide chronological span.

The construction of an artificial reservoir led to the submersion of the Serra Linta area (1924), but the lowering of the lake level at the end of the 1980s allowed the discovery of the village.

The settlement has not been excavated. Surface surveys made it possible to identify chipped stone materials (obsidian, flint and jasper), as well as millstones, grindstones and pestles. Dough ceramics is washed and poorly diagnostic.
The artifacts date back to the Late Neolithic, but the layout of the village can be attributed to the Middle Neolithic II.

As for the Nuragic age, there are protonuraghi, nuraghi and tombs of giants.
The Punic presence in the territory is certified by superficial findings and by the fortifications overseeing the Tirso.

Evidence of Roman times came from Oruine, Talasai and Iscannitzu. In other locations (Salighe Nanu, Piras, Campeda plain) structures relevant to settlements or *villas are identified* .
The remains identified in the towns of Funtan'Appiu, Su Mudregu and Torozzula can be traced back to rural settlements.
A stretch of paved road in Putzola is worth mentioning, as are tombs and funerary urns bearing inscriptions, now at the Territorial Museum of Sedilo.
The introduction of the cult of San Costantino dates back to the Byzantine age.

A medieval church, now barely legible, is located at the foot of Monte Trigu; around it stretched a settlement of which no traces remain.
The site is unattended and could be visited freely. Being submerged, it can only be visited in some months of the year.

2.b.18.

Necropolis of Ispiluncas

Sedilo

Between 1993 and 1995, Tombs 2, 3 and, in part, Tombs 30-32, edited by Melis (1998) and Depalmas (2000), were investigated.
The reuses of Tomb 2 are documented by materials referring to the Early Middle Bronze, Late Bronze/Early Iron and Early Medieval phases.
Tomb 3 has unearthed a similar cultural sequence, ranging from the Recent Neolithic to the Early Middle Ages.
The interpretation of the stratigraphic data of Tomb 2 is supported by radiometric dating. The DNA analysis of the bones discovered in Tomb 3 dating back to the Bell beaker culture has been impossible as a result of the state of conservation of skeletal remains.
A selection of the finds of Ispiluncas is exhibited in the Local Museum of Sedilo.

The cleaning operations started in 2022, revealing hypogea previously hidden by the vegetation, increasing the number of hypogea from thirty-three to forty.

The necropolis is located within a larger archaeological complex, it is not manned. Admission is free.

2.b.19.

Necropolis of Mandras (or Mrandas)

Ardauli

The necropolis, surveyed by Mario Zaru (1971) has been the subject of several studies, including those by Cinzia Loi (2002-2003).

So far, there has been no record of hypogea after the 3rd millennium BCE.

The 2020 operations performed by the local Superintendence included a restoration of the paintings of Tomb I, the cut of the tree responsible for the cracks in the ceiling and its consolidation in order to prevent rainwater form seeping into the inner rooms.

Further tomb restorations and arrangements are planned for 2022-2024.

The monuments have not undergone significant structural or decorative changes. Only the atrium and the entrance door to Tomb I show evidence of tampering.
Taramelli reported the presence of a nuraghe in Iscala Mugheras, that is now no longer visible.
No evidence is available regarding the Phoenician-Punic attendance.
Traces of Roman settlements are found in the towns of Tanghè and Idd'Edera. The numerous rock millstones , some of which were used until recent times, testifying to the antiquity of the Ardauli wine tradition, are probably attributed to the Roman age.

The site is unattended and could be visited freely. The management of the archaeological area will soon be assigned.

2.b.20.

Necropolis of Brodu

Oniferi

fig. 2.2b20 - Necropolis of Brodu-Oniferi (Archive of the Superintendence of Archaeology, Fine Arts and Landscape for the Provinces of Sassari and Nuoro; 1971)

The necropolis has been known since the late nineteenth century. In the 1960s, Contu noted the that hypogea had been looted and emptied in ancient times.

With the exception of Tomb IV, the tombs are not accessible due to earthy deposits piled up inside it.
Excavations, restoration and consolidation have not been executed yet.
During the Nuragic period, the Brodu nuraghe was built on the top of the homonimous hill. It is not possible to exclude reuse or attendance of the *domus de janas* at this stage.
The hypogea have recently been repurposed as a shelter for livestock; the surrounding area has undergone limited quarrying operations.
The site is unattended and could be visited freely. The management of the archaeological area will soon be assigned.

2.b.21.

Necropolis of Istevéne

Mamoiada

A cleaning operation carried out in the necropolis by the local Superintendence (2002), allowed the recovery of materials attributed to the cultures being studied subject to applications and reuses in the Middle Bronze and Middle Ages.

Tomb III perhaps had a small pavilion, the lower portion of which remains today. The hypogeum features modification of uncertain dating.
There is no known find of the Punic age in the territory, while Roman materials have emerged in numerous sites, some of which continued to be populated in the Middle Ages.

No consolidation or restoration of the monuments has been carried out. At the National Museum of Nuoro, there is a fragment of a mother goddess statuette, perhaps from the necropolis area.

The site is unattended and could be visited freely.

2.b.22.

Grotta Corbeddu

Oliena

The cave is located in an area of frequent human attendance, from the Neolithic to date. Mention should be made of the Cave of Su Benticheddu, the Nuragic village of Sa Sedda 'e Sos Carros, the Giant's Tomb at Rifugio Sa Ohe and the archaeological area of Tiscali.

The village of Ruinas has uncovered remains from the Roman age to the Middle Ages, as has the settlement of Sovana, where there is also a Giant's Tomb.
The cavity, currently musealized, was the hideout of Giovanni Corbeddu Salis, killed in 1898 after a fugitive of eighteen years.
The site is attended and the management is temporarily controlled by the Municipality, which operates through tourist guides.

2.b.23.

Menhir of Cuccuru Tundu

Villa Sant'Antonio

The menhir was fist mentioned by Lilliu (1981). Being found laying on its side, it has recently been raised and placed back to its original position. By adding the broken tip to the preserved height, it might have reached 6 m: it would be the tallest in Sardinia.

No archaeological excavations have been carried out in the area.

The menhir is adjacent to an ancient cart track of historical interest, the area is not guarded and the entrance is free.

2.b.24.

Shelter of Su Forru de is Sinzurreddus Stone tool workshops of Sennixeddu

Pau

Shelter of Su Forru de is Sinzurreddus

The archaeological investigations in the area were directed by Carlo Lugliè (2002).
The 2005 campaign allowed the discovery of historical clay artifacts. Clues of a Nuragic occupation (Middle-Late Bronze Age) is a geometric microlith on a two-faced scale.
Carbon dating carried out on samples taken from different stratigraphic units in the area of Cavity "A" attests to the presence of repeated and discontinuous episodes of occupation after the Neolithic. Thy date back to different periods of the Eneolithic Age, the Early and Middle Bronze Age, the Early Iron Age, the Late Punic and Roman-Republican period, the Late Medieval and Modern period up to the mid-twentieth century.
The cave had been used until the twentieth century as a shelter for livestock.

Stone tool workshops of Sennixeddu

The processing workshop is now recognizable for the waste beds of the obsidian reduction activity, whose outcrops were originally located on the ridges overlooking the ridge. Already in a very ancient phase, it underwent disaggregation from the rocky matrix that incorporated it and accumulated in large deposits on the slopes below.
The archaeological investigations have led to the chronological reconstruction of the periods of attendance of the workshop.
After a break following the first Eneolithic, since the Middle Bronze Age lithic reduction had resumed. From that moment, and for several centuries, being the waste of processing of the Final Neolithic, chips systematically reused as preformed cores to shape small moon-shaped artifacts, which are found in a large number of Nuragic contexts.
The shelter and the stone tool workshops are not attended: the area can be used freely, or through a guided tour that also includes the Obsidian Museum.

2.b.25.

Archaeological Park of Pranu Mutteddu

Goni

Since the 1970s, the site has been repeatedly the subject of scientific excavations.

Near the Park area, on the top of the plateau that today dominates the town, stands Nuraghe Goni, built in limestone blocks, which testifies to the human settlement in the territory in the Nuragic age.

There is no known find dating back to the Punic, Roman and Late Antique Ages.
The existence of the village of Goni is documented as early as the Middle Ages.

The archaeological park area is fenced, managed and features paths equipped with explanatory panels.

2.b.26.

Necropolis of Montessu

Villaperuccio

The first excavations in the necropolis were directed by Vittorio Pispisa (1969); since then, the excavation campaigns have followed one another on several occasions.

Since 1981, the complex has been included, along with other archaeological evidence, within an archaeological-naturalistic park.

Conservative restoration operations involved Tomb 25 (2000-2004), the tombs of the western sector (2006-2008) and Tomb 7 (2011-2012).

Medium and Late Bronze Age vases found in Tombs II, VI and VIII, suggest they were reused during the Nuragic age. The facade and lined walls of Tomb XXV are perhaps of Nuragic origin.

A cist grave carved into the rock of Tomb XXXIII dates back to the Punic-Roman age; there, the attendance stopped in the Middle Ages, as documented by both the materials found and the name *Sa* Cresiedda, referring to a rock church.
The tombs were used over the centuries as a shelter for livestock and, in the Fifties and Sixties, the area was also affected by the quarrying activity.
The archaeological area is fenced, managed and features paths equipped with explanatory panels.

DOMUS DE JANAS
ARTE E ARCHITETTURA NELLA PREISTORIA DELLA SARDEGNA.

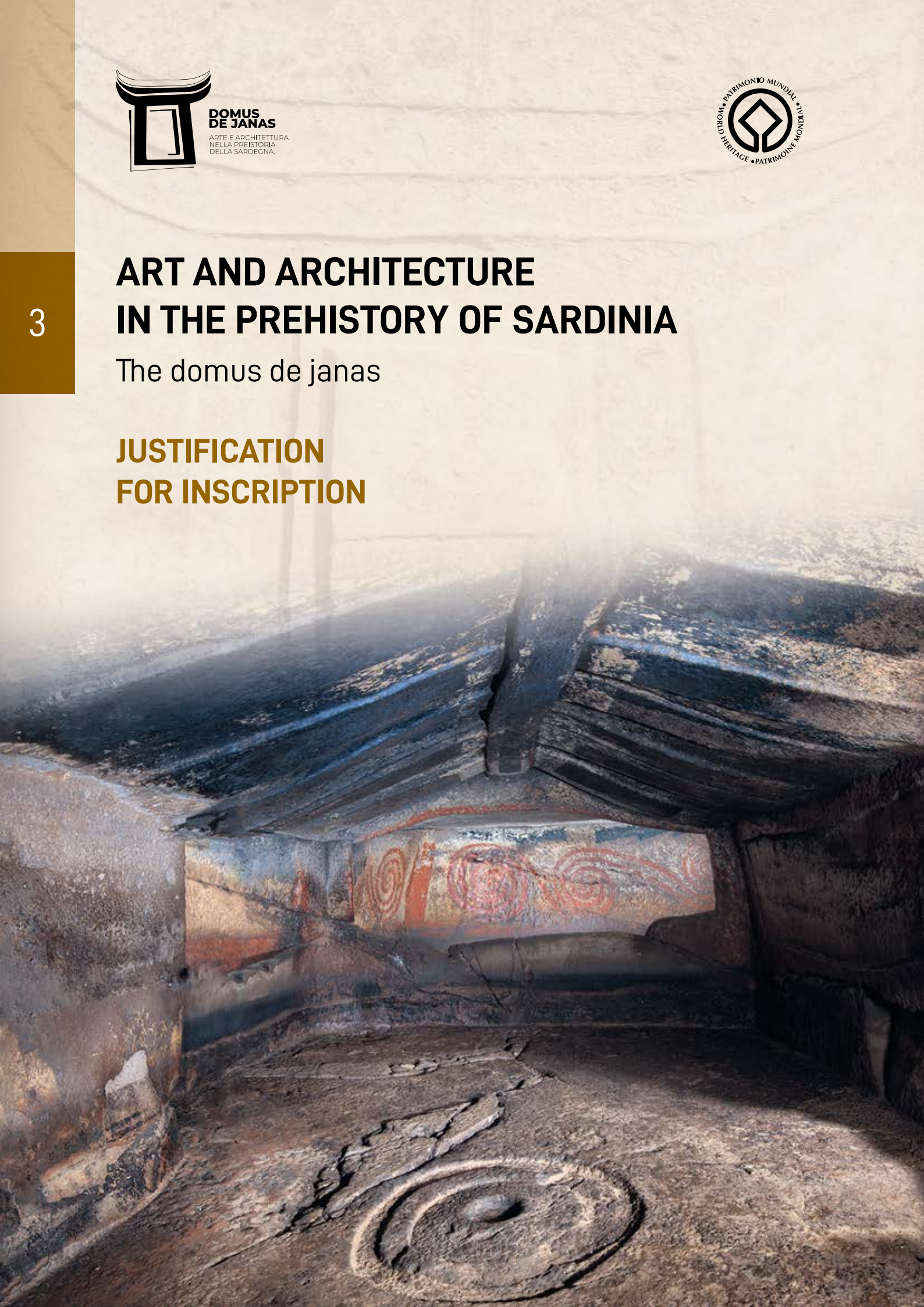
PATRIMONIO MUNDIAL • WORLD HERITAGE • PATRIMOINE MONDIAL

3

ART AND ARCHITECTURE IN THE PREHISTORY OF SARDINIA

The domus de janas

JUSTIFICATION FOR INSCRIPTION



JUSTIFICATION FOR INSCRIPTION

3.1.a - Brief synthesis

The "Art and Architecture in the Prehistory of Sardinia. *The domus de janas*" includes 26 complexes were built between the 5th and 3rd millennium BCE and refer to the age between the Middle Neolithic Age and the Copper Age.
The nominated property provides an exceptional material testimony to the cultural peculiarities of the Prehistory of Sardinia, an island located in the centre of the Western Basin of the Mediterranean, a crossroads of peoples and cultures. In such a strategic position, the people who settled there during the three millennia considered showed that they possessed great **receptive capacities** for inspiration, ideas and models from the outside and, at the same time, considerable aptitudes to **rework** contents, group needs, the influence of the surrounding environment and, above all, the communities' capacities and will for cultural growth and economic development. The result of such evolutionary processes are the specificities that characterize the monumental evidence of of cultural systems, enriching them with identity values.
Based on the research conducted during the last forty years, it is possible to outline this **cultural system** of Sardinian Prehistory through the numerous material finds collected in the Museums and the thousands of structures built and/or excavated spread throughout the island, which testify to a remarkable **continuity** despite the differentiations that have made it possible to distinguish several cultures/**cultural** *facies*: Bonu Ighinu culture, San Ciriaco culture, Ozieri I and II culture, Filigosa culture, Abealzu culture, Monte Claro culture, Bell Beaker culture. Only the latter has left no monumental traces in Sardinia; rich Bell Beaker contexts, mostly funerary, have been found in existing tombs, generally built and used by groups from the previous Monte Claro Culture.
It should also be noted that the Bell Beaker culture, unlike the others, is not characteristic of Sardinia only but it started the Pyrenean region, spread throughout Western Europe. It therefore seems that the Bell Beaker people, who settled in Sardinia, perfectly integrated with the Monte Claro communities.
The candidate monumental complexes are the most representative results of the local reinterpretations of the two main cultural phenomena that affected the Mediterranean basin and Europe in the period under review, **hypogeism** and **megalithism**, and are representative of the different aspects of daily life of the island's prehistoric society. In particular, excavated and built found architectures having:

- a civil nature (from caves to shelters below rocks, from open-air villages to fortified settlements on high grounds),
- a magical-worship nature (individual menhirs, groupings, line-ups, circles; sanctuaries),
- a funerary nature (dolmen tombs, circle tombs, and *domus de janas*, the characteristic tombs carved into the rock which are the best example of Sardinian hypogeism).

These architectures provide functional data for the reconstruction of the most comprehensive general picture of Sardinian Prehistory and are the material testimony to the skills, knowledge and beliefs of the communities settled on the island. They carried out agriculture and animal husbandry, the exchange of obsidian and flint and, from the final stages of the Neolithic period, also the exploitation and processing of copper and silver. Their profound knowledge of nature and the territory also allowed them to benefit from the exploitation of mineral resources (clay, ochre, obsidian, flint), animals (bone, shell, horn and antler) and plant resources (wood, plant fibres).
Those sedentary communities were capable of planning and building

elaborate monumental complexes. This constructive effort, motivated by religious convictions linked to the otherworldly world and the life-giving earth, testifies not only to a certain degree of social organisation and skillful management of available resources, but also to considerable prosperity.
It is only during the third millennium BCE that we witness the development of fortified settlements, suitable for the defense and control of the territory, the increase in metallurgical production, as well as the despay, in some tombs, of rich grave goods, aspects that suggest the appearance of social inequalities.
It is not always possible to distinguish individual architectural categories in relation to the different prehistoric cultural ***facies*** identified. It is likely that some monuments continued to be built throughout the entire period under consideration, as it is clearly evidenced for the ***domus de janas*** and the menhirs; just as the highland villages surrounded by megalithic walls were only built from the Copper Age onwards. This is based on what can be informed by current knowledge, which is, however, subject to possible changes as a result of new discoveries that may occur in the future, a possibility specifically related to the archaeological nature of the candidate assets.
However, an aspect that significantly distinguishes the entire period considered in the candidature proposal, differentiating it from the following historical phases, and in particular from the Bronze Age, is the widespread presence in the monumental complexes of extraordinary decorative motifs, which characterise in particular the ***domus de janas***. Of the approximately 3,500 *domus de janas* Of the approximately 3,500 ***domus de janas*** known to date in Sardinia, at least 220 include sculpted, painted, and engraved manifestations of art, with a variety of decorative motifs ranging from the figurative to the geometric to the depiction of architectural elements. The refinement in the execution of the decorative motifs and the presence of identical motifs in places far apart suggests that there were specialised craftsmen.
The artistic aspect is reported in the Paleolithic Age, but the period between the Middle Neolithic and the Copper Age is particularly noteworthy, both in the monuments and on the open-air rocks, and in the material culture (anthropomorphic figurines, decorative objects and rich decorations in vessel forms). In this regard, in addition to the hypogeic necropolises, there is also the Shelter of Luzzanas, which houses clear representations of this artistic vein that disappeared completely in the Bronze Age (corresponding in Sardinia to the Nuragic age) and then reappeared only at the beginning of the Iron Age, albeit with different methods and expressions, in stone and bronze statues. This gap therefore testifies, even more, to the significant cultural change on the island determined by the advent of the Nuragic age.
To date 220 decorated *domus de janas* and 340 figurative motifs have been known, to which 89 tombs are to be added, where the entire plan or individual architectural elements of the "houses of the living" have been carved (or saved), not attested by archaeological evidence since the huts were completely made using perishable materials, with the sole exception of the village of Serra Linta-Sedilo, wherea construction model unavailable elsewhere in Sardinia and known only through its depiction inside the *domus de janas* and perhaps unique, at present, also in the European environment has been identified.

Megalithism is connected to funerary evidence represented by the tombs of the Necropolis of Li Muri-Arzachena, the Dolmen of Sa Coveccada-Mores and the circles of the Archaeological Parks of Pranu Mutteddu-Goni.
Dolmen and *allées couvertes* generally stand out in the surrounding area and are located in key points of the landscape, linked to natural routes such as canals and valleys. Usually isolated, they are sometimes associated with *domus de janas* and menhirs. The site of Pranu Mutteddu-Goni, in particular, includes about sixty menhirs, some of which are associated with tomb structures, others arranged variously: stand-alone, in pairs, lineups, groupings. In the same necropolis, the coexistence of circle tombs, *domus de janas* tombs and mixed type tombs is evidenced.
The structures that make up the fortified complex of Monte Baranta-Olmedo are made of dry-laid structures, having polygonal elements filled with small stones. The fortified complexes used solutions that would thrive during the Bronze Age and testified to the antiquity and durability of a construction technique that still survives today.
In the archaeological complex that includes the altar of Monte d 'Accoddi-Sassari, being a genuine *unicum* in the Mediterranean, the only structures with a worship nature known in Sardinia can be seen, dating back to the period under study.

With reference to the above, therefore, the **main characteristics** that distinguish the **nominated property** (see Table of tangible attributes on pg. 288-289)are primarily related to the architectur-

al type (*domus de janas*, fortified villages, sanctuary complexes, funerary circles, dolmens, open-air villages, shelters and caves, menhirs, obsidian tool workshops), location (plain and plateau, relief, ridge, slope or side, erratic boulder), function (civil, funerary, worship), construction techniques (excavation, construction), layout (standalone, grouping, lineup, circle), plan (compact or complex), type of access (well, dromos/corridor, on the field level), execution technique of decorations (sculpture, engraving, painting, plastic strips) and decorative motifs (figurative, geometric, architectural).

With regard to **intangible attributes** (see below, Intangible attributes table on page 290-291), monumental complexes are an expression of large-scale phenomena: hypogeism and megalithism. Thousands of years of use in their original function are evidenced, but they were repurposed sometimes until the 20th century (rock churches, shelters, barns, quarries).

According to popular legends, which have already been transferred in non-fiction and fiction, magical benevolent or malevolent creatures dwell within prehistoric structures.
These monuments are part of Sardinia history, so much so that they evoke the *genius loci* of different locations. The toponyms of some monuments, or the areas where they rest, testify to the fact that these places had been known and attended by local communities for a long time.
The interconnection among communities, places and monuments is undeniable. It is a cognitive bond that attributes an identity value to the candidate monumental complexes and is based on an emotional connection of belonging and familiarity (*sense of place*).

3.1.b - Criteria under which inscription is proposed

(ii) exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design

The different monumental categories and the related decorative arts, characteristic of the pre-Nuragic cultural system of the V - III millennium BCE, is a concrete manifestation of the interactions and exchanges that occurred between the peoples settled in Sardinia, and both European and Mediterranean groups characterized by the presence of funerary hypogea, and contemporary communities using megalithism, also settled on the European continent and along the shores and islands of the Mediterranean.
The most representative monuments of the period under study are part of the framework **hypogeism** and **megalithism** that characterized both the Mediterranean basin and continental Europe in Prehistory. The similarities between the different architectural structures (funerary hypogea, dolmens, ***alléés couvertes***, menhirs, funerary and worship circles, "megalithic" walls or dry-laid walls) and the art manifestations of prehistoric Sardinia with those of European and Mediterranean contexts can only be explained by recognising the existence of attendance, contacts and exchanges between the communities of the island and the other communities, often determined by the research and supply of essential raw materials such as obsidian, present in Sardinia in the extensive deposits of Monte Arci.

Although present throughout the Mediterranean basin - with the exception of Corsica - and on the European continent, nowhere are there as many examples of **hypogeism**, as in Sardinia hypogea or *domus de janas,* which are also characterized by the rich and original decorations.

Hypogeism and megalithism in the lands of Sardinia are not only widely evidenced, but **meet and integrate**, sometimes also merging in the same monument, as in tomb II in the complex of Pranu Mutteddu in Goni: the integrated cultural character of this site is clear where the possibly foreign livestock farmers coexisted with the group of farmers represented by people from the Ozieri culture (4th millennium BCE), frequently using funerary hypogeism. On the site of Goni there is also a *domus de janas* necropolis.
Similarly, the burial circles of Li Muri, referable to the San Ciriaco culture, transpose the megalithic structural model originated in the Pyrenean area, but embellished by different cultural elements, such as the menhirs and the stone boxes for offerings during community worship ceremonies.
Mediterranean and continental influences can also be seen in certain symbols engraved on the walls of funeral hypogea.
Together with the new inspirations and cultural contributions typical of the Metal Ages, the gradual evolution of megalithism and hypogeism of the pre-Nuragic worship system contributed to the development of the following Nuragic civilization, which was established during the full Bronze Age, marking a strong cultural change on the island. In

particular, megalithic dry-stone walls, the execution and the selection of particularly overlooking positions, favored the construction of nuraghi, the typical architectures of Sardinian Protohistory.

The truncated pyramid altar with a rising ramp at Monte d'Accoddi, built during the Ozieri culture (4th millennium BCE) and renovated during the Filigosa and Abealzu cultures (late 4th-3rd millennium BCE) in its present state is a unique testimony not only in Italy but also in the Mediterranean and on the European continent. The worship monument, undoubtedly a centre of social aggregation on a regional basis, in an area scattered with prehistoric villages, starting from the final ancient Neolithic period, is however part of the broader framework of contacts and exchanges between Sardinia and the Mediterranean world, if one considers the box construction technique, of western origin, and the model of the high place similar to Mesopotamian ziqqurats, from which it differs in chronology and functional aspects.

(iii) bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared

The "Art and Architecture in the Prehistory of Sardinia. *The domus de janas*" Serial site is an exceptional testimony to the cultural system that characterized prehistoric Sardinia in the long period of time between the Middle Neolithic and the Copper Age, until the Early Bronze Age (between the V and the end of III millennium BCE). It was in the Middle Neolithic Age that the first artistic and religious manifestations were developed in Sardinia and that part of the settlers began to separate the spaces of the living from the spaces of the dead: the villages have a consistent layout and the first hypogeal tombs, the *domus de janas*, are built and characterize the entire period.

The prehistoric cultural system of Sardinia is characterised by a remarkable cultural continuity, although it is organized in multiple components (cultures/***facies***), which are divided archaeologically on the basis of their material productions, including vases and other terracotta artifacts, stone tools and hard animal matter, found in contexts used for civil, worship and funerary functions: Bonu Ighinu culture and San Ciriaco culture (Middle Neolithic, 5th millennium BCE); Ozieri I and Ozieri II cultures (Late Neolithic, 4th millennium BCE); Filigosa culture, Abealzu culture, Monte Claro and Bell Beaker cultures (Copper Age, 3rd millennium BCE).
It was also during that long period that the prehistoric art strand - which began in the Early Palaeolithic, with the Macomer statuette - developed, with examples of exceptional value, and which stands out for the number and variety of its manifestations not only in material culture but also in monumental art. The decorative heritage found in the shelters and the hypogea reflects the spiritual world of the Neo-Eneolithic communities, connected to the cult of fertility and an otherworld: such artistic expressions testify to the complex system of beliefs and values which were reworked and developed on the island with particularly original features, although being present in the Mediterranean and Euro-continental cultural substrate. In particular, in the *domus de janas* there is a close connection between the layout and the decorative motifs, which sometimes merge in the representation of magical-ritual symbols of otherworldly value.
The artistic production stopped at the beginning of the Bronze Age, testifying to the strong cultural change brought about by the beginning of the Nuragic civilization on the island.
The scarcity of settlements known and scientifically investigated makes it hard to reconstruct some aspects related to the social organization and daily life of the sedentary communities that inhabited the island, dedicated to agriculture and livestock breeding and, more marginally, to hunting and fishing, as well as to the exploitation of local natural resources, in particular obsidian and flint and also copper and silver from the final stages of the Neolithic.
On the other hand, the funerary sphere is better known. In the Middle Neolithic, individual burials are evidenced inside caves and shelters, circular tombs and pits or rooms with wells excavated in the rocky outcrops. Since the recent Neolithic, there are collective burials within megalithic structures (one, at most two individuals) and hypogeal structures, the *domus de janas*, which were collective. The tombs are mostly found without an archaeological deposit, also due to the numerous reuses that involved the removal of the most ancient burials.

As for the sacred, the only structure known to date with a distinctly worship purpose is the Complex of Monte d 'Accoddi; the funerary finds suggest the existence of a cult of the dead and ancestors, which is made explicit by offerings, a continuous attendance of the places and a rich decoration that refers to magical-symbolic elements.
v*i) be directly or tangibly associated*

with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance.

The candidate site is part of the historical memory of Sardinia evoking myths and legends that still survive in the cultural tradition of the island. Menhir (referred to as "*perdas fittas*") and *domus de janas* are already mentioned in the *Condaghes*, monastic registers that are among the first documents written in the Sardinian language. In particular, the *domus de janas* are a major and significant part of the cultural heritage of Sardinia, not only for their historical-archaeological value, but also because, being widespread in much of the regional territory, they are an integral part of its identity. The artistic motifs, present in the shelters and hypogea, have also been taken up and reproduced on different supports in art and crafts.
The wording *domus de janas*, "House of the Fairies", originated from the stories related to the magical creatures that were believed to inhabit those prehistoric structures. The *janas* are the main characters of an ancient oral tradition that varies and changes depending on the places, but which consistently always refers to small female stature, endowed with magical powers, benevolent or malevolent and vengeful depending on the stories. They knew how to weave, spin threads and make bread rise; sometimes they had the gift of prophecy and charm. While carrying out these activities, they sang the *encantades* from Spain and the Balearic Islands, the fairies of Corsica and the French *filandieres*. The *janas* have fascinated both Sardinian writers, such as Salvatore Cambosu and Literature Nobel Prize laureate Grazia Deledda (1895-1936), and foreign writers, such as ethnologist, linguist and German philologist Max Leopold Wagner (1880-1962), the father of Sardinian linguistics.
Here is what Grazia Deledda wrote in the novel "Reeds in the wind", that earned her the Nobel Prize in 1926:
"*Yes, man's working day was done, but the fantastic life of elves, fairies, wandering spirits was beginning. [...] The janas, the little fairies who stay in their small rock houses during the day weaving gold cloth on their golden looms - were dancing in the large phillyrea bushes, while giants looked out from the rocks on the moon-struck mountains. [...] During moonlit nights especially this entire mysterious population animates the hills and valleys. Man has no right to disturb it with his presence, just as the spirits have respected him during the sun's course; therefore it's time to retire and close one's eyes under the protection of guardian angels.* "
In the chapter focusing on "Blasphemies and curses" in her articles on the popular traditions of Nuoro, among the many annotations, Deledda makes reference to the *janas*, defined as malevolent creatures:
"Mala jana ti jucat- May bad jana get you". The janas, whose houses are still referred to in certain excavations and underground caves of Sardinia, seem to be very small fairies, a Sardinian native species, mostly of a bad temper. This curse would mean: may you be tormented by the spell and power of a bad jana who wants you and hurts you."
Salvatore Cambosu mentions *janas* in the story *"Carbonia, smell of sulfur"*, in his most famous narrative work, "*Bitter Honey*". Nonna Vincenza lives in Carbonia, a mining town in Sulcis, created by the writer's pen. The woman believes in the fairies and traditional stories, where reality is rich in magical-mythological elements:
"*But, going back to the janas, according to Nonna Vincenza's mithology, they were greedy for honey, but also jealous of their metals. Leaks of veins, landslides, floods, anticipated or delayed or unforeseen explosions, colic, blindness, shortened and songless life: with all these and other evils they inflict on the miners, to take revenge for the fears of dynamite, and their lamps, and their thefts.* " In this case, it seems that the revenge of magical creatures is provoked by human greed: miners are considered almost like thieves, who invade the underground and frighten the fairies that have lived in those cavities since ancient times. The author was a front runner, making scientific considerations that sound quite contemporary, for which the dystonia of the ecological system is due to a "reaction" of the earth and nature to the violence suffered by man.

In some cases, prehistoric monuments represent the *genius loci* of many locations. The toponyms of monuments, or the areas where they rest, testify to the fact that these places had been known and attended by local communities. The name *Sa Coveccada*of the Dolmen of Mores refers to the "covered" configuration of the structure; Roccia dell'Elefante is locally known as the *Pedra Pertusa* ("perforated stone") the hypogeal appearance of the *domus de janas* is referred to by the Sardinian names *concas* and *concheddas* ("ravines"), for exampe the *Concheddas 'e Istevene* - Mamoiada, as well as the name of the Necropolis of *Ispiluncas* ("caves") in Sedilo. The Shelter of Su Forru de is Sinzurreddus in Pau owes its name to its shape similar to an oven (*forru* in Sardinian) and to the presence of bats (*Sinzurreddus*). In other cases, the eponymous locations of

some monuments are dedicated to Christian saints, as in the case of Sant'Andrea Priu- Bonorva and are probably part of the Christianization process of places dedicated to pagan cults. Finally, Grotta Corbeddu, in the Supramonte of Oliena, is named after bandit Giovanni Corbeddu Salis, who died in 1898 after being on the run of eighteen years. Historical tradition has it that the bandit took refuge in the cave, which he accessed from a secret passage. He hid its entrance by moving its original position a stalactite he had previously cut.

3.1.c - Statement of Integrity

With regard to integrity, the series includes all the elements necessary to provide evidence as to the Outstanding Universal Value of the nominated property. Indeed, the most representative and best-preserved monuments and monumental complexes of the different architectural categories characterising Sardinia in the period from the 5th to the 3rd millennium BCE have been carefully selected, in order to ensure an exhaustive representation of the material and cultural manifestations of the period. Many of them have been the subject of stratigraphic excavations, which have returned numerous finds of various kinds (ceramic, stone, metal, biological), whose analysis has made it possible to reconstruct daily life and the uses of prehistoric communities. The 26 monuments proposed, therefore, provide a comprehensive representation of the cultural characteristics and processes expressed by the monumental and mobile archaeological evidence of the period.

The serial site fully meets the criterion of integrity both as a whole and with reference to the individual monuments and complexes, with their decorative apparatus and the attributes identified, ensuring the complete representation of the cultural characteristics and processes that developed in the territory of Sardinia during recent prehistory.
As for the historical-structural integrity, the monuments included in the serial site are, in general, in a good state of conservation; the megalithic structures and the structures built with dry technique are still present and the hypogeal structures are still legible in their plan. Decorations are also found in all their variety and richness.
Although, over the millennia, some structures have undergone marginal transformations, also due to reuse, the prehistoric phase is on the whole clearly legible. The Necropolis of Sant'Andrea Priu is, in particular, a historical-artistic, archaeological and architectural record of extraordinary interest from Prehistory to the Middle Ages.
The visual-aesthetic integrity of the landscape contexts where the monuments are located has also remained unchanged; with the exception of the *domus de janas* of Orto del Beneficio Parrocchiale, now incorporated into the urban fabric, but maintained in a dedicated area, and the boulder of the Roccia dell'Elefante, now located on the edge of a provincial road.
The natural degradation processes are under control and the monuments, all subject to Italian protection legislation, are monitored by the local bodies of the Ministry of Culture. The management of the sites by local authorities or cooperatives prevents damage resulting from the abandonment of the monuments.

The proposed buffer zones enhance the conservation of the nominated site in the landscape context, enhancing its Outstanding Universal Value.
The constant monitoring carried out by the Ministry and the competent local authorities in implementation of the national protection legislation (Code of Cultural Heritage and Landscape, Legislative Decree no. 42 of 22 January 2004) and the related territorial planning instruments of local authorities, ensures the protection and safeguarding of the nominated prehistoric heritage over time, also guaranteeing the maintenance of the authenticity and integrity of the individual assets and the landscape contexts of reference.
Extraordinary funds have recently been allocated to implement conservation, extraordinary maintenance and enhancement of several monuments included in the serial site (see paragraph 5.f).

3.1.d - Statement of Authenticity

The serial property for which inscription on the World Heritage List is requested meets the criterion of authenticity, in accordance with what is defined in the Nara Conference Document (1995).
All the nominated monuments and monumental complexes meet the criteria of authenticity required by the multiple attributes characterizing them: the form and design of their architectures and decorations, their materials, their construction and execution techniques, the pigments used and the contexts where they were made. Decorations made using different techniques, are still legible and in their original position and the motifs represented can still be identified, even with the help of techniques such as *3D Photometric Stereo* or software such as *DStretch*.

As these are testimonies of exceptional cultural interest, all the monuments included in the serial list are subject to Italian protection legislation, implemented by the Ministry of Culture (MiC), which operates in the territory through its peripheral offices (Regional Secretariat and Superintendencies).

All conservation and restoration actions are carried out directly by the Ministry of Culture or its local bodies or under their supervision. These activities are always preceded by careful research and in-depth historical and material analysis, and conducted in the strictest respect for the authenticity and maximum maintenance of the characteristics, types, systems, constituent materials and original construction and decorative techniques, in line with the most advanced methodologies and practices shared internationally
Partial reconstructions were carried out in exceptional cases, such as in Tomb II of Pranu Mutteddu, restored following destruction due to illicit excavations, when there were elements, such as to allow a faithful return of the state of the monument prior to the damage suffered.
Of all the proposed complexes, only the truncated pyramidal altar of Monte d'Accoddi shows a supplementary conservation action; the restoration carried out in the years 1986-89 gave priority to the chamber of the most ancient sanctuary, also allowing visitors to reach the top of the monument without major risks. According to the theoretical and methodological criteria on which the Italian School of Restoration is founded, today it would not be possible to carry out such a large-scale supplementary action.

With regard to the individual sites included in the serial property, many of them have had a long-lasting use and/or attendance (see 2.b). Sometimes, over the millennia, the actions that took place in the following phases have left traces on the same monuments. Where traces of later phases are visible, they have not compromised the visibility of prehistoric structures and decorations. In particular, in the case of the *domus de janas*, the political and territorial value and the millennial use as a burial place have favoured their preservation. They maintained their burial function until the Bronze Age: mention is made of the cases of the necropolis of Sos Furrighesos-Anela where a curved stone was carved into the rock mimicking those found on the façade of the Giants' Tombs and in Ispiluncas-Sedilo, where Nuragic materials were found.
In other cases, the interventions were limited to the excavation, at later times, of elements such as small windows or funeral "beds". In some cases, the *domus de janas* were then transformed into a place of worship or shelter for shepherds, in the latter case being attended until the last century. Among the hypogea transformed into Christian churches is the case of Sant'Andrea Priu-Bonorva.
These additions did not compromise the study of prehistoric evidence, but on the contrary, it gave them an added value, testifying to how human communities having settled over time, interacted with the pre-existing monumental heritage. Over the centuries, monuments have also HAD a prominent role in the collective imagination and local tradition: reference is made to the oral heritage consisting of legends about the *janas*, the name of Grotta Corbeddu, which owes its name to the bandit who used it as a lair and to the place names of different sites, which provide evidence as to the familiarity of these monuments by the local populations and the interaction between communities and the landscape.

As for their function, nowadays, for obvious reasons, prehistoric monuments no longer cover the original one (funerary, worship or residential) but they are considered monuments of historical-artistic interest accessible to the public (see table).

Scientific studies and diverse sources of information, both written and visual (photographs, surveys and drawings), further testify to the authenticity of the individual components of the serial site and their attributes.

3.1.e - Protection and management requirements

All the assets included in the proposed serial site are subject to the same regional and national rules and regulations on cultural heritage (see Annex 2) and to the control of the competent Superintendencies, serving as peripheral bodies of the Ministry of Culture. In particular, the regional territory of Sardinia is divided between two Superintendencies: the Superintendence of Archaeology, Fine Arts and Landscape for the Provinces of Sassari and Nuoro and the Superintendence of Archaeology, Fine Arts and Landscape for the Metropolitan City of Cagliari and the Provinces of Oristano and Sud Sardegna.

At the national level, the set of laws that deal with the protection of the landscape and cultural heritage is

collected in the "Code of Cultural Heritage and Landscape" (Legislative Decree 22 January 2004, n. 42, as follows: Legislative Decree 42/2004), which is the result of a long tradition of regulations and is based on internationally shared principles. The Code sets out specific and strict measures concerning the protection, conservation and enhancement of cultural heritage. The competent Superintendencies in the territory guarantee that the protection measures are applied and exercise a control and supervision function on the monuments present in the application, through the authorization, imposition or prohibition of works of any kind on cultural heritage, in order to prevent any possible damage to them and guarantee their conservation for future generations.

The control, monitoring and supervision activities of the Ministry of Culture include extraordinary maintenance and restoration operations, which can only take place after prior authorization and supervision of all phases and a final certification that all procedures have been carried out and completed correctly.

The serial site includes public (municipal) and private monuments (see 5a.i.). In Italy, cultural property owned by the State is considered cultural property by law and subject to the protective laws (Legislative Decree 42/2004, art. 12). Cultural property consists of cultural assets belonging to the State, Regions and other territorial public bodies that fall within the types indicated in art. 822 of the Italian Civil Code. If the assets are owned by the State, the Regions and other territorial public bodies, they cannot be "*alienated or subject to rights in favour of third parties*" (Legislative Decree 42/2004, art. 53). In the event that the property falls within private property, through a "declaration of cultural interest" (Legislative Decree 42/2004, art. 13), it is subject to protective rules and cannot therefore "*be destroyed, deteriorated, damaged or used for purposes incompatible with their historical or artistic character or such as to jeopardize their conservation*" (Legislative Decree 42/2004, art. 20).

Conservative actions on cultural heritage are carried out either by the local bodies of the Ministry of Culture or under their supervision and control.
Protective actions are the sole responsibility of the Ministry, as well as the granting of archaeological research activities, which may be entrusted to public or private bodies.
In addition, the norm (Legislative Decree 42/2004, art. 91) assigns the ownership of heritage of cultural interest to the State found in the subsoil or on the seabed from the year 1909 (Law no. 364 of 1909).
Concurrent regional legislation (see 5b and 5.c) and funding from the Region of Sardinia (see 5.f), on the other hand, contribute in a tangible way to the execution of protection, conservation and promotional programmes.
In conclusion, the legal protection offered by the national and regional regulatory framework is strong and strict and guarantees maximum protection with regard to the preservation of the Outstanding Universal Value and the integrity and authenticity of the monuments.

For the short, medium and long term, the Management Plan (see Annex 1) developed for the nominated site will ensure the maximum level of cooperation among all stakeholders on the site and on the related buffer zones, marked to ensure the integrity of the view to and from the selected property.

3.2. Comparative analysis

The comparative analysis refers to the chronological and geographical scope referred to the nominated property.

The populations that inhabited Sardinia between the 5th and 3rd millennium BCE were sedentary communities, mainly settled in open-air villages, which practiced a subsistence economy based on agriculture and livestock farming since the previous millennium.
The transition from the hunter-gatherer lifestyle, typical of the most ancient phases of prehistory, to a sedentary life, represents a nodal passage in the history of man that takes the name of neolithization. This phenomenon occurs in the Euro-Mediterranean area at different times and seems to spread from east to west. The earliest findings are those dating back to the Middle and Late East, while the northernmost part of Europe and North Africa provide much more recent dates.

For the Neolithic period in Sardinia, there is abundant archaeological evidence that has revealed the presence of a considerable number of structures (about 5,000 places inhabited by human beings) that testify to a population that is now stable and widespread. The sedentary lifestyle led to a allocation of spaces, clearly visible from the 5th millennium BCE: areas for civil use (settlement, production, etc.), areas for funerary use and, from the 4th millennium BCE, areas dedicated to worship. As already seen (see 2.a), the use of caves and caverns, which began in the Paleolithic, continued for a long time, especially for worship and funerary purposes.
The Mediterranean, rather than a barrier, is a vector where exchanges and contacts took place, which were

Neolithization

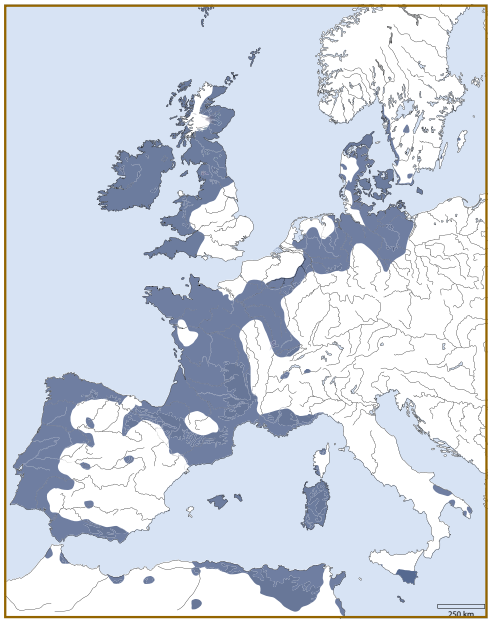
favoured by the need to procure obsidian especially, available in the four western Mediterranean deposits, one of which was located in Sardinia in Monte Arci. This volcanic rock was indeed the most popular material to create a wide range of chipped stone tools.

The monumental categories and their specific decorative arts, characterizing the prehistoric cultural system in Sardinia between the V-III millennium BCE, offers a tangible manifestation of the results of the interactions and interchanges that took place between the peoples which had settled in Sardinia, with the contemporary European and Mediterranean groups who built funerary hypogea and with those communities which performed megalithism.

The nominated monuments are deed part of the framework of the two great phenomena of Prehistory, which affected both the Mediterranean basin with its islands, and continental Europe: hypogeism and megalithism. Sardinia, located in the centre of the western Mediterranean, it was part of a wide network of exchanges that favoured the dissemination of materials, ideas and techniques. Multiple elements were selected and reworked locally, enriched and reinterpreted to meet the needs and socio-environmental requirements of Sardinian communities. And the results of the two phenomena **hypogeism** of and **megalithism** in Sardinia meet and integrate, sometimes merging even in the same monument, resulting in manifestations of great value that, in some cases, are not found outside Sardinia.

The inscription request includes monumental testimonies, of civil, funerary and worship function, whose completion brought together European influences, but also elements that are the result of distinctly local elaborations.
The Mediterranean and continental frequentations are also shown in some symbols engraved on the walls of the funerary hypogea, similar to

Spread of hypogeism in the Euro-Mediterranean context



Spread of megalithism in Europe

those found in Val Camonica, Monte Bego and the Iberian Peninsula, or in painted layouts similar to those found in Olmeta du Cap - Corsica and the ravines of the Iberian Peninsula.

Civil structures

The caves, natural shelters, and the open-air villages where communities used to live and work on a subsistence basis, were the civil structures commonly used during the period under consideration. During the Copper Age, at the end of the third millennium, villages were built in strategic places naturally defended, often surrounded by powerful walls.

Caves and shelters

Several caves and shelters were used by local communities during Prehistory. The serial site includes Grotta Corbeddu-Oliena (022), the Shelter of Luzzanas-Ozieri (013) and the Shelter of Su Forru de is Sinzurreddus-Pau (024).

In the **Shelter of Luzzanas**, just like in the rock shelters of the Iberian Peninsula and Southern France, the artist painted a parade of men, animals, plants, and cosmological and worship elements. The painted motifs are similar to those found in Sardinia: a grapheme of Grotta del Papa-Tavolara is similar to motif 23 of Luzzanas. More significant are the comparisons with the dancing anthropomorphic figures made, however, using the technique of engraving in the Branca Tomb of the Necropolis of Moseddu-Cheremule and with those in Grotta del Bue Marino in Calagonone-Dorgali, worshipping the stars, represented by a circle with a central dot and a cup-shaped decoration, the former being painted in motif 18 and duplicated in the branched motif 17 of Luzzanas. Engraved anthropomorphic figures recur on the rock found on the shore of the Orrì-Tortolì beach and on a ceramic fragment, encrusted with ochre, found in Tomb III of the hypogeal Necropolis of Monte d'Accoddi-Sassari, the latter being attributed to the Ozieri culture.

The tree-shaped motif is also represented in different techniques: in Sardinia, in linear technique, clearly dating back to different times (possibly during the Bronze Age, or the Middle Ages), it occurs in the *domus de janas*, in particular in Tomb I of Noeddale-Ossi, in the Tomb of Chercos-Usini and in Tomb IX of Sos Furrighesos-Anela.

The hammered motif can be found in the decorations of Monte Bego (France), Valcamonica and Asiago.

The beamed circle motifs of Luzzanas (1, 7), widespread in the western Mediterranean, are similar to those found in Sardinia, that is, those engraved in the *allée couverte* of Monte Paza-Sedilo, in the menhir-statue of Sa Perda Pinta-Mamoiada and the menhir of Su Rosariu-Mamoiada, on the slab of Trexere-Ilbono, on a boulder of S'Arcu 'and S'Aranzu-Irgoli.

The cross-shaped motifs are found in the engravings of the megalithic site of Sa Mandra Manna-Tula and in the menhir-statues of Samugheo and Allai, perhaps referring to a human shape.

Outside the island, the most significant similar examples are the ithyfallic anthropomorphic decorations painted in Grotta Scritta di Olmeta du Cap-Capo Corso and,

above all, those widespread in the Iberian Peninsula, both for being located in an outdoor shelter, for using ochre paint, and for their symbols. Despite having no archaeological context of reference, these Iberian similar examples are connected to a cultural context bating back to the Late Neolithic and Early Copper Age (end of the IV-beginning of the III milenium BCE).

In the Shelter of **Su Forru de is Sinzurreddus**, the use of cremation in funerary matters is found for the first time in Sardinia. The skeletal remains, with which fragments of San Ciriaco pottery were associated (late 5th millennium BCE), were the core of a ritual that involved secondary deposition, following exposure to fire. It is a ritual that is found few times outside the island, as in the Middle Neolithic sites of the Po Valley area – in the first phase of the square-mouthed vases (SMV) culture – and in the ancient phases of the Chassey culture (southern France). Considering the widespread scarcity of evidence, this parallel with continental regions suggest potential interactions between cultures that may have conveyed artifacts, ideas, customs and symbolic setups. The shelter is located a short distance from one of the most important obsidian stone workshops on Monte Arci, where one of the four obsidian deposits in the western Mediterranean is located. Obsidian was a fundamental raw material, traded in Corsica, the French Midi, Catalonia, the Balearic Islands and the Tyrrhenian area. In the entire western Mediterranean, there is no other obsidian stone workshop as extensive, well preserved and immediately usable. Only for the Aegean area can the workshops of Sta Nikia (Agios Georgios) and Demenegaki on the island of Milos, in Greece, be compared partly, which, moreover, are not yet subject to promotional actions.

As for the use of caves and shelters, the UNESCO List includes evidence relating to European Paleolithic art in France (*Decorated Cave of Pont d 'Arc, known as Grotte Chauvet-Pont d 'Arc, Ardèche, the Prehistoric Sites and Decorated Caves of the Vézère Valley*), Spain (*Cave of Altamira and Paleolithic Cave Art of Northern Spain; Rock art of the Mediterranean Basin in the Iberian Peninsula*) and Spain and Portugal (*Prehistoric Rock Art Sites in the Côa Valley and Siega Verde*), therefore a very remote period compared to the one considered for the inscription (see table).
Since 1984, in the Tentative List there has been the Magoura Cave (Bulgaria), that includes graffiti and paintings dating back to the Bronze Age but which recall engraved anthropomorphic motifs or paintings found in Sardinian shelters from the end of the Neolithic.

Outdoor villages

As far as settlements are concerned, while in the early Neolithic phases human population seems to prefer caves and shelters below rocks, from the end of the fifth millennium BCE onwards open-air dwellings became common, located in dry and often flat or slightly declining areas. The settlement framework is uneven: the finds are concentrated in central-southern Sardinia. The lack of data in northern Sardinia stands out even more when you consider that the occupation had to be widespread, given the considerable concentration of burials in *domus de janas* and necropolises, even of great extension.

In **Serra Linta – Sedilo** (017), an extended village whose remains of at least nine huts are visible, a construction layout known only through its reproduction inside the *domus de janas* and "village maps", where the floor plans of the huts on rocky outcrops, shelters and isolated boulders are reproduced through the engraving technique.

The model is not found elsewhere in the Sardinian archaeological environment and, on the basis of current data, it is also unique in the European environment.
The *group of Neolithic monuments of Orkney* (Scotland, United Kingdom), included in the UNESCO List, includes, among other monumental remains, a village: Skara Brae (about 3100-2500 BCE, a phase that for northern Europe still falls within a Neolithic scope). The scarcity of trees on the Scottish island had major repercussions from a technical-structural point of view: the huts were in fact dug into the ground and covered with grassy clods, plant remains brought by storm surges and whale bones. It is clear that it is a very different context from the Sardinian one, therefore not comparable both at a technical-structural and chronological-cultural level.

Fortified villages

The construction of the **Complex of Monte Baranta-Olmedo** (004) is attributed to the Eneolithic period and more specifically to the Monte Claro facies. It is characterized by a defensive system consisting of a wall, that protects a village of rectangular huts, and a tower-fence built on the cliff edge. It is likely that other dwellings (Tanca Baranca, Padru Salari), made some reference to Monte Baranta, both for defense in case of danger and for activities related to worship. The presence of a village protected by walls provides significant evidence of the breakdown

of the social-economic structure that had characterized the previous Neolithic phase in Sardinia, when, to date, no defensive structures (walls, trenches, embankments, etc.) have been documented.
Similar complexes are known in Monte Ossoni-Castelsardo, Punta S'Arroccu-Chiaramonti, Pedra Oddetta-Macomer, Crastu-Soddì, s'Albaredda-Tresnuraghes, etc. The wall structure and location introduce the high Bronze Age buildings, the nuraghi.
This need for protection is common in the same period of time to other parts of the Mediterranean, in the Aegean Sea and, in particular, in the Iberian Peninsula and in France. In Portugal, particularly in Extramadura, the sites of Crasto-Phaleiros-Murça, Vila Nova de São Pedro, Zambujal, Castelo de Santa Justa-Alcoutim, Monte da Tumba-Torrao, Leceia-Oeiras, Penedo de Lexim-Mafra, Pedra do Ouro, Castelo Velho (Vila Nova de Foz Coa) and Perdigoes (Reguengos de Monsaraz) are to be mentioned.
Other fortified villages are located in an area that extends between the Setubal region and western Andalusia: Valencina (Seville), Mestas, Corte Joao Marques (Eastern Algarve), Cortadouro (Ourique), Alcalar (Algarve), Monte Novo (Sines).
In Spain, Los Millares-Santa Fé de Mondujar, Marroquíes Bajos-Jaén, Cabezo del Plomo-Mazarron, Cabezo del Plomo III and Campos, Palacio Quemado (Alange, Badajos) and El Malagon (Cúllar) should be noted.
In France the villages of the eastern Hérault are known, defended by turreted belts, in Boussargues-Argelliers-Hérault, in Château Lebous, the double enclosure of Tailladette, Campmau, and the fortifications of Les Lauzières-Lourmarin, La Citadelle-Vauvenargues, Mouvin-Istres Bouches-du-Rhône.
In Corsica, the construction of the fortified structure on the height of Le Tesor-Cap Corse is attributed to the final phase of the Neolithic. It is a rocky spur defended by four fence walls that isolate terraces where minor shelters are found below the rocks.
The construction of the other tower monuments, surrounded by fences or walls, dates back to the end of the 3rd millennium or the beginning of the 2nd millennium BCE. These include the circular structure of Calanchi-Sollacaro, the central building of Calzola-Castellucciu and the Tappa complex.

Worship structures

Worship structures include megalithic structures made with dry technique.
The only known monumental structure of a specifically cultural nature is the Monte d'Accoddi monumental complex (no. 6), built in the Late Neolithic Age and then renovated during the Copper Age, during the Filigosa and Abealzu cultures. It is a unique monument in Sardinia and the Mediterranean, consisting of a truncated pyramidal altar with a climbing ramp, near which a menhir and a menhir-statue were erected. The architectural model consisting of an altar having a truncated pyramid base and the presence of an access ramp suggested a connection with Mesopotamia's ziqqurat or Egypt's mastabes or step pyramids. Indeed, comparisons must be sought within the megalithic current of Western Europe. Some stepped burial mounds, such as the Cairn of Barnenez in northwestern France, were built using the dry-laid stone technique, with a "box" system reminiscent of Monte d'Accoddi, and are also associated with the same chronological context. The western influence was probably only indirect, linked to the already mentioned circulation of raw materials, artifacts and probably also ideas and people, which characterized Europe in the first half of the 4th millennium BCE and in which Sardinia is fully included. In fact, the ceramic materials, the use of red painted plaster, and the economic and cultural activities carried out, always refer to the cultural context of prehistoric Sardinia.

The menhirs

There are 740 menhirs known in the literature in Sardinia. The phenomenon dates back to the Ozieri culture (recent Neolithic, 4th millennium BCE). Depending on the context, they have a worship and funerary function: indeed, they are often associated with other prehistoric monuments, such as megalithic circles, *dolmens* and *allées couvertes*, *domus de janas*, sacred areas and sanctuary villages. In the Copper Age, menhirs evolved into **menhir-statues**, which are part of the broader phenomenon of European prehistoric stelae.
Sardinian menhirs have variable sizes, from 50 cm to more than 6 meters; they can be isolated, like the imposing menhir of **Cuccuru Tundu-Villa Sant'Antonio** (023), in dyads, triads or lineups and in circles. Several other lineups are known in the Sardinian territory. One hundred and ten menhirs were counted in Biru 'e concas-Sorgono, many of which were incomplete. Originally they were placed on two lineups oriented on the North-South axis. Other lineups are found in Corte Noa and Conca Zerfalius-Laconi, the latter now inverted and buried. Outside the island, we remember the lineups of Corsica (Stantari, Renaggiu and, above all, Padaghju). The alignments of Carnac in Brittany (France), a site inscribed since 1984 on the UNESCO Tentative List, are also very well known, which includes about 3000 menhirs erected about 6000 years ago, including

the largest prehistoric menhir currently known, 20 meters long and weighing 300 tons. The monoliths are grouped into the majestic sites of Menec (1169 menhirs), Kerlescan (594) and Kermario (1099).

Ritual circles (cromlechs)

In Sardinia there are around fifty megalithic circles, including those in Monte Baranta.Olmeno. It is at the site of Biriai-Oliena that the most significant analogies can be seen for the sacred area of Monte Baranta: here there is a circle consisting of menhirs, two of which are still fixed in the ground, in relation to different structures in Monte Claro.

Among the Sardinian circles are those of Sa Figu-Ittiri, Monte Dominigu-Uri, Taccu Ara-Nurri and Is Cirquittus-Laconi.

In Italy, in Valle d 'Aosta, on the border with France, in the municipality of La Thuile, there is the Little Saint Bernard *cromlech*, made up of 46 stones.

In Sicily, within the Madonie-Petralia Sottana Park, remains referring to a *cromlech* were discovered in 2013. Another Marianopoli, in the province of Caltanissetta, is known n the Dark Valley area.

Examples of *cromlech* are found throughout continental Europe and the British Isles. In France there are several *cromlechs*, including those on the island of Er Lannic and at Carnac, and, in the south, at Causse de Blandasi in the Cevennes.

There are several examples in the Alentejo region of Portugal, the oldest and most complete of which is the Cromlech of Almendres, near Évora and within its municipality. The remains of many others consist only of the central side (as they are known in the Alentejo). This sometimes seems to have been used as an altar, but more often as a central burial structure, originally surrounded by megaliths that have only minimally survived erosion and human activities.

The megalithic monuments of *Stonehenge, Avebury and nearby locations* (United Kingdom), inscripted in the World Heritage List in 1986, are well known. The two British shrines consist of circles of menhirs arranged in a pattern whose astronomical significance is still being explored. These structures were built between 3100 and 1600 BCE, thus at a later, or only partially contemporary, stage than the Sardinian *cromlech* which are, however, different in size and construction technique, consisting of simple orthostats, without the use of the trilithic system.

A similar argument applies to the circus known as the 'Ring of Brodgar', which, together with other monuments, including the aforementioned village of Skara Brae, is part of the *Heart of Neolithic Orkney*, declared a UNESCO World Heritage Site in 1999. The complex is a prehistoric cultural landscape that provides a representation of life in this remote archipelago in the north of Scotland some 5,000 years ago. For the reasons already listed in the section on civil structures, these contexts are difficult to compare. The 104-metre-wide circle originally contained sixty megaliths and is dated to 2500-2000 BCE.

A special case in point is the Maltese archipelago: here, so-called "*megalithic temples*" developed between the 4th and 3rd millennium BCE. In particular, the two temples of Ggantija on the island of Gozo, the temples of Ħaġar Qim, Mnajdra and Tarxien on the island of Malta, and the complexes of Ta'Hagrat and Skorba, also in Malta, recognised by Unesco in 1992. Temples are a typically Maltese cultural expression (see table).

Funerary structures

The nominated property includes burial structures related to megalithism and hypogeism, but also structures that include associated or merged elements of both kind.

It is emphasised that overall, the evidence of funerary use is the most numerous among the archaeological evidence from this period.

Megalithic graves

Megalithic architecture is expressed in Sardinia with the elevation of different categories of funerary structures: circle tombs, *dolmens* and *allèes couvertes* and menhirs arranged variously.

Sardinian megalithism is part of a much broader scenario, involving the British Isles, the Iberian Peninsula, France, Corsica and Apulia.

The **circle graves** of **Li Muri-Arzachena** and **Pranu Mutteddu-Goni**, including small menhirs, are the first stage of the Sardinian megalithic phenomenon in the Middle Neolithic, the forerunner of true monolithic (menhir) and trilithic megalithism (*dolmens* and *allées couvertes*).

Similar monuments to the Sardinian circle tombs can be found in Corsica, e.g. in the sites of Monte Rotundu-Sotta, Poghiaredda-Sotta, Ciutalaghia-Appiettu, Tivulaghju-Porto Vecchio and Monte Revincu-S. Pietro di Tenda; in several sites in southern France, in Andorra (La Feixa del Moro-Juberri), in Catalonia (Camp del Ginèbre-Tavertet) and in Andalusia (Alberite).

This is not surprising: close contacts existed between Gallura (northern Sardinia) and Corsica, stimulated by the exchange of Sardinian obsidian. Jean Guilaine speaks of 'proto-megalitism' referring to these early megalithic funerary manifestations. According to the illustrious archaeologist, the spread of the circles in the Sardinian Corsican area would seem to be in line with the

propagation of the same monumental type along the Franco-Iberian arc of Catalonia, Languedoc and Provence. The source of spread of the phenomenon could be the Catalan area.

It was during the Late Neolithic (with the Ozieri culture) and the Eneolithic that megalithism reached its peak, with the spread of *dolmen*-like monuments throughout the island, as already shown, and menhirs of various kinds.
At least 255 trilithic burials are known, mostly located in north-central Sardinia. Out of them, 152 are ***dolmens*** and 29 ***allées couvertes***. Of the remaining 74 monuments, it is not possible to determine exactly which category they belong to. In contrast to continental Europe, in the *dolmen*-like strutures in Sardinia, a covering mound does not seem to be found.
At times, *dolmen*-like graves are found associated with other monuments: often with menhirs, but also with *domus de janas*, such as the necropolis of Montessu-Villaperuccio.
In terms of type, three main categories have been recognised in Sardinia: the simple *dolmens*, the "corridor" *dolmens*, and the "allée couverte" *dolmens*. The vast majority of Sardinian dolmen-like graves are simple; the main example is the **Dolmen of Sa Coveccada-Mores** (012), both for its size and for the presence of a slab with a rectangular access hatch, placed centrally, at ground level.
The World Heritage List includes several examples of funerary structures related to megalithism. The *Dolmen of Antequera*, in Andalusia (Spain), includes three megalithic monuments: the *dolmen* of Menga and the *dolmen* of Viera and the *Tholos* of El Romeral, in addition to two natural monuments: La Peña de los Enamorados and the Torcal mountain. Built with large stone blocks between the Neolithic and Bronze Age, these monuments consist of chambers with linteled roofs or false domes. The three tombs, buried under their mounds, are among the most significant in European megalithism. The Iberian *dolmens* are similar to Sardinian ones, but the *dolmen* of Antequera is truly exceptional in size and extent, so much so that it includes intermediate pillars inside the chambers to support the roof slabs, which are arranged horizontally above the orthostats. The Sardinian *dolmens* are much smaller in size, height and area, probably due to factors related to the island ecosystem and social dynamics (v. criterion iii). Furthermore, the use of the mounds does not seem to be confirmed. *The main prehistoric sites of the Brú na Bóinne complex, Newgrange, Knowth and Dowth* (Irland), are located 50 km north of Dublin. It is the largest and most important concentration of prehistoric megalithic structures in Europe and preserves structures built between the 4th millennium BCE and the Middle Ages, having civil (dwellings, enclosures from various periods), economic and religious (farms and Cistercian estates), and funerary (prehistoric corridor tombs covered by a mound, built from 3200 BCE onwards) functions. Similar graves, also in Ireland, are those in County Sligo *(The Passage Tomb Landscape of County Sligo)*.
It is worth noting, in the Newgrange mound, the presence of spiral motifs similar to those in the Ħal Saflieni Hypogeum and Tomb III of **Sa Pala Larga-Bonorva**.

The characteristic front slab with carved door, visible in the Dolmen of Sa Coveccada-Mores, compares fittingly to numerous non-insular examples, especially French and Spanish.

The *dolmens* of the French Languedoc regions of Provence often shows this particular type of entrance: mention is made to the *dolmens* of Fées (or Grammont)-Soumont, of Banèle-St. Hippolyte du Fort in Gard, Gruelle in Cornus nell'Aveyron, Riens in Mons nel Var. For the Iberian peninsula, mention is made to the *dolmens* of Montefrio-Granada, in Andalusia. The French and Iberian examples are "corridor" *dolmens*, "vestible" dolmens and complex such in Mores. The Spanish monuments of Castillejo in Vila Nova de Paiva in Galicia and Torre d'en Gaumes 1 in Alaior-Minorca in the Balearic Islands are simple.

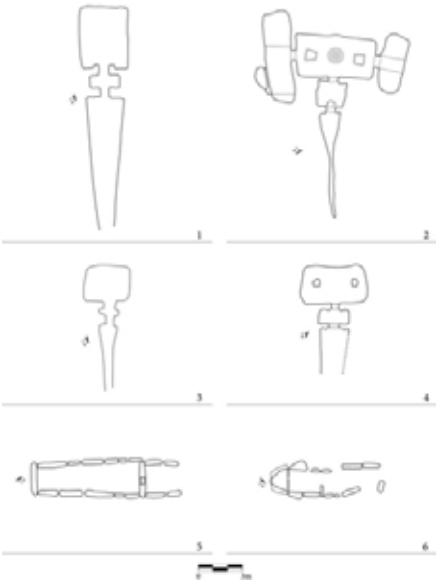
Hypogeal tombs
The number achieved by Sardinian funerary hypogea or *domus de janas* is unparalleled. These tombs appear very early in Sardinia, with manifestations whcih are more ancient that the oldest examples found on the Italian Peninsula located in Apulia and Sicily. Compared to the hypogeal structures documented in Italy and Europe, the Sardinian phenomenon differs in tomb morphologies and is distinguished by its rich and original decorations, which have few similar example outside the island and for some of which a local origin has also been considered.
More than 3,500 hypogea are known, being distinguished by the skill and refinement of their excavation, the variety of their floor plans, the number of rooms in the tombs (up to 20, such as in the Tomba Maggiore of Ossi) and the decorations, which reproduce magic-symbolic motifs or aspects of the houses of the living.
The funerary hypogeum model is present in vast European and circum-Mediterranean areas, as shown in the dissemination map, including the islands, with the exception of Corsica. In none of

these areas, with the exception of Sardinia, is the pluricellular pattern found in large numbers that is found in the plans of the nominated necropolises or in those not included in the Dossier, but present in the *Tentative List* such are the Necropolis of Santu Pedru-Alghero and Molia-Illorai. These are tombs that have been used for millennia by communities which were well rooted in the territory, perhaps holding socio-economic control and, therefore, capable of excavating and maintaining complex structures such as these. Outside Sardinia, the hypogeum layout can be found in Sicily, in Apulia, and in various parts of the peninsula. In France, the Paris Basin is home to a group of hypogea of the Seine-Oise-Marne culture, characterised by layouts similar to the Type 4*domus de janas*, commonly referred to as 'T' types, very close to types 6-7, which according to French archaeologists have a Mediterranean origin, possibly Sardinian.
The World Heritage List includes two prehistoric funerary sites related to hypogeism: the Ħal Saflieni Hypogeum, in Malta, and the Necropolis of Pantalica, in Sicily, Italy.

Ħal Saflieni was, perhaps, originally a sanctuary, which later became an underground necropolis. The tomb, inscribed for criterion (iii), in 1980, is attributed to the Neolithic period (late 4th millennium BCE) and is a rare example in the Maltese archipelago, and unique in its structural complexity. The similarity between the *domus de janas*, built between the end of the 5th and the 3rd millennium BCE, and Ħal Saflieni is clear: for the complex 'multi-chamber' layout, for the presence of carved architectural elements, imitating subaerial architectural structures, for the spiral decorations painted in red on the ceiling, for the similar partial chronological framework of the Maltese site.
The necropolis of Pantalica, included in the 'Syracuse and the Rocky Necropolis of Pantalica' Italian UNESCO site inscribed in 2005, comprises more than 5,000 hypogea excavated in the rock, close to open quarries. The majority of these tombs date back to the 13th to 7th century BCE, thus to a period later than the construction of the nominated monuments.
The layout of some longitudinal *domus de janas* shows the influence of megalithic structures such as the allèes couvertes, found in both France and Sardinia.

Hal Saflieni's painted decorations are also found in the iconography of Sardinian tombs. However, in that case, they have singular and exceptional aspects both in terms of the number of examples and the variety and complexity of the decorations, which are of great scientific value. The decorative layouts concern two aspects: the imitation of floor plans and architectural elements and the depiction of magical-symbolic motifs.
The sculpted or painted architectural elements, found in around a hundred graves, respond to the 'ideology of the house' or the desire to inter the dead belonging to the *élite*, in contexts that reproduced the dwellings of the living, within the funerary ideology of life-death-new life.
As for the symbols, they are part of the same ideology and are documented in some 300 *domus de janas*. They also show specific analogies, in their technique of execution and iconography, with well-known European art complexes, one of which, the Italian Rock Art of Valcamonica, has been on the UNESCO list since 1979.

The techniques used in Sardinia are: bas-relief sculpture; hammer engraving; linear technique, *polissoir*, dotted, wall or plaster painting, use of plastic listels. Sculpture and the use of plastic listels are exclusive to Sardinia.
Sculpture is only present in Category I and there is no acceptable similar example in Europe and the Mediterranean, at the current state of research. Sculpted protomes, in particular, are a *unicum*.



Analogies between hypogea and megalithic structures of Sardinia and France. Seine-Oise-Marne culture hypogea 1, 3, Coizard-Razet (da Coularou 1980). Domus de janas: 2, Putifigari-Monte Siseri 1; 4, Alghero-Matteatu IV. Allées couvertes: 5, Boury (Oise)-La Bellée; 6, Austis-Perda Longa.

Comparable Unesco sites in terms of decorative aspects are Çatalhöyük (Turkey) and the rock engravings in Val Camonica (Italy).

The Neolithic city of Çatalhöyük in Turkey, which was inscribed on the UNESCO List in 2012, shows high-relief decorations in some temples dating back to the 6th millennium BCE, depicting a female deity with raised arms in the act of giving birth to horned animals; an-

thropomorphic motifs and animals painted red are also observed. The analogy would concern the presence of horned animals, but it would be very far from it. The archaeological complex, of undoubtedly exceptional importance, can be dated to the 7th-6th millennium BCE, more ancient than the nominated property.
The case of the Italian site Rock Drawings of Valcamonica is different, characterised by the presence of thousands of engravings made on rocks in the open air, according to the listed techniques, except for sculpture. The artistic complex begins in the Mesolithic period and continues seamlessly until the contemporary age. It includes all types of symbols and other categories not found in Sardinia. Noteworthy are the decorations of scenes connected with the cult of the dead that relate to scenes documented in Sardinia, e.g. in Grotta del Bue Marino-Dorgali. The engravings tell stories of life, death and the cult of the communities that lived in the valley.

Engravings in Sardinia are documented mainly on the walls of *domus de janas*, but also in other monumental categories: caves, shelters, *dolmens*, open-air rocks, menhirs, stele-statues, which are all contexts linked to the funerary or sacred (magical-ritual) sphere.
Other extra-insular analogies are known, for example with Mount Bego (France) and with the Iberian Peninsula, in the Guadiana basin, the Sierra Morena, south-eastern Spain, and Old Castile. However, in the Iberian Peninsula sometimes motifs and graphic symbols are also executed using a different painting technique.

Painted motifs in the *domus de janas* are often overpainted on the sculpted figures, or painted on the walls of hypogea, either directly or on plaster or in caves or shelters, such as **Ozieri- Luzzanas**, a shelter already mentioned as included in the nominated property.
Outside the island, analogies are observed in Apulia, in the Grotto of Porto Badisco; in Sicily, Grotta Miabella; in Corsica, in Olmeta du Cap; and in France, in the Midi. They are mainly observed in the Iberian Peninsula, in the places mentioned above.
In summary, comparisons of the decorative art of the 4th-3rd millennium BCE, documented in the *domus de janas* but also in caves, shelters and open-air rocks, lead to European and Western Mediterranean post-Paleolithic art, which combines schematicism, abstraction and symbolism as its highlighted hallmarks.
It is clear that all this is likely to be the result of the cultural and economic interchanges that took place over that long period of time between Sardinia and the human groups living along the shores of the western Mediterranean basin.
With one exception, perhaps for the island of Malta. The traces of finishing tools observed on the walls of Ħal Saflieni are similar to those found on the walls of numerous *domus de janas*. Therefore, the presence in Malta of stonemasons who possessed the special experience of the artisans who excavated the funerary hypogea of Sardinia cannot be excluded. Stonemasons from Sardinia to Malta? Perhaps, as an exchange of technology or friendship between peoples.
What remains is the exceptionality, indeed the uniqueness of the carved art, which to this day, has no paragon in the world of prehistoric art.

Synthesis of hypogeism and megalithism

There is, as mentioned above, an intertwining of megalithism and hypogeism from a constructional point of view, evidenced by the existence of around thirty artificial hypogea that present a megalithic corridor at the entrance, consisting mostly of orthostats but also of drystone masonry. These tombs compare with various examples found throughout the western Mediterranean, especially in the islands (in Sicily and the Balearic Islands) and on the Iberian Peninsula.
The Sicilian comparisons, e.g. the hypogea of Castelluccio and Marcita, are, however, dated to the Early Bronze Age and thus later.
Similar tombs can also be found in southern Italy: in Apulia, for instance in the 'Giuseppe Arturo Franco' grave.

Particularly numerous are the similar example with the Balearic Islands and, above all, Menorca, attributed to a period between the end of the 4th and the beginning of the 2nd millennium BCE. Examples include the tombs of San Tomas, Biniai Nou, Cala'n Morell and Curnia Nou.
Similar monuments can also be found on the Iberian Peninsula, in the north-eastern coastal strip, particularly in the Empordà and Maresme regions.
The close relationship between megalithism and hypogeism is expressed not only in the 'physical' association of modules built in different techniques, but also in the association of spatially separated or merrged elements; this is the case in Tomb II of **Pranu Mutteddu-Goni** and the *domus de janas* of **Montessu-Villaperuccio**. As far as distribution on the island is concerned, if we consider central-northern Sardinia, the distribution ranges of these two types of tombs fairly overlap: in the same areas, the two hypogeic and epigeic burial types are often present.

Name	Location	Inscribed on the World Heritage List (year)	Criteria	Cultural phenomena	Timeline
Syracuse and the Rocky Necropolis of Pantalica	Italy	2005	(ii) (iii) (iv) (vi)	Hypogeism	13th - 7th century BCE
Su Nuraxi Barumini	Italy	1997	(i) (iii) (iv)	/	2nd millennium BCE - 3rd century BCE
Rocky Drawings in Val Camonica Lombardy	Italy	1979	(iii), (vi)	/	From the end of the Early Paleolithic to the Iron Age (12000-1000 BCE)
Prehistoric Pile Dwellings around the Alps	Austria, France, Germany, Italy, Switzerland and Slovenia	2011	(iii) (iv)	/	From the Neolithic to the Bronze Age
Ħal Saflieni Hypogeum	Malta	1980	(iii)	Hypogeism	4000-2500 BCE
The megalithic temples of Ggantija	Malta	1980	(iv)	Megalithism	4th-3rd millennium BCE
Antequera Dolmens Site	Spain	2016		Megalithism	4th-3rd millennium BCE
Brú na Bóinne - Archaeological Ensemble of the Bend of the Boyne	Ireland	1993	(i), (iii), (iv)	Megalithism	From 3200 BCE
Stonehenge, Avebury and associated sites	United Kingdom	1986	(i), (ii), (iii)	Megalithism	3100- 1600 BCE
Heart of Neolithic Orkney	United Kingdom	1999	(i), (ii), (iii), (iv)	Megalithism	4th-3rd millennium BCE
Göbekli Tepe	Turkey	2018	(i), (ii), (iv)	/	9600-8200 BCE
Çatalhöyük or Çatal Hüyük	Turkey	2012	(iii), (iv)	/	Eastern mound 7400 - 6200 BCE; Western mound 6200 - 5200 BCE
Paleolithic art sites in Côa Valley and Siega Verde	Portugal and Spain	1998	(i), (iii)	/	Early Paleolithic - Mesolithic 22'000 – 8000 BCE
Cave of Altamira and Paleolithic Cave Art of Northern Spain	Spain	1985	(i), (iii)	/	Early Paleolithic 35000 – 11000 BCE
Rock Art of the Mediterranean Basin on the Iberian Peninsula	Spain	1998	(iii)	/	Early Paleolithic
Decorated Cave of Pont d'Arc, known as Grotte Chauvet-Pont d 'Arc, Ardèche	France	2014	(i), (iii)	/	Upper Paleolithic 30000-32000 BCE

Name	Location	Inscribed on the World Heritage List (year)	Criteria	Cultural phenomena	Timeline
Prehistoric Sites and Decorated Caves of the Vézère Valley	France	1979	(i), (iii)	/	Upper Paleolithic
Tassili n'Ajjer	Algeria	1982	(i), (iii), (vii), (viii)	/	6000 BCE - 100 CE
Tadrart Acacus	Libya	1985	(iii)	/	12000 BCE - 100 CE
Rock Art of Alta	Norway	1985	(iii)	/	4200-500 BCE
Choirokoitia	Cyprus	1998	(ii),(iii), (iv)	/	VII-V millennium BCE
Karstic caves in prehistoric Apulia	Italy	2006	(i)(ii)(iii)	Paleolithic (Mousterian, Romanellian) Neolithic (Masseria La Quercia and Serra d 'Alto facies) Eneolithic (Piano Conte facies)	Grotta Romanelli from the Middle Paleolithic. Grotta delle Veneri from the Middle Paleolithic to the Neolithic, Bronze Age. Grotta dei Cervi Neolithic and Eneolithic (4000-3000 BCE).
Two neolithic dwellings with their interior and household furnishings and utensils completely preserved	Bulgaria	1984	(iii), (iv)		Neolithic
The Magoura cave with drawings from the bronze age	Bulgaria	1984	/		1. Bronze Age
Megalithic sites of Carnac	France	1984	/		5000 - 2000 BCE
The Passage Tomb Landscape of County Sligo	Ireland	X	(iii), (iv)	Irish Neolithic	4th-3rd millennium BCE

Summary table of the comparative analysis of the candidate site with other sites present in the Tentative Lists of other countries

The candidate site is part of the historical memory of Sardinia evoking myths and legends that still survive in the cultural tradition of the island. Menhirs (referred to as "*perdas fittas*") and above all *domus de janas*, "Houses of the Fairies".
The *janas* are the main characters of an ancient oral tradition that is reflected in some local traditions, such as those of the*encantades* of Spain and the Balearic Islands, the fairies of Corsica and the *French* filandieres. It can therefore be said that the **identity value** is just as valid for the prehistoric populations as it is for the modern Sardinians, who have inherited a landscape characterised by these monumental evidence and the **oral heritage** connected to them. The comparative analysis clear shows that the serial nominated property "Art and Architecture in the Prehistory of Sardinia. *The domus de janas*" describes a cultural system that shows similarities with other cultures dating back to the Neolithic and the Eneolithic Ages, some of which are represented on the *World Heritage List*, but has its own, specific attributes that express a truly original civilisation in the Euro-Mediterranean sphere.

3.3 - Draft Statement of Outstanding Universal Value

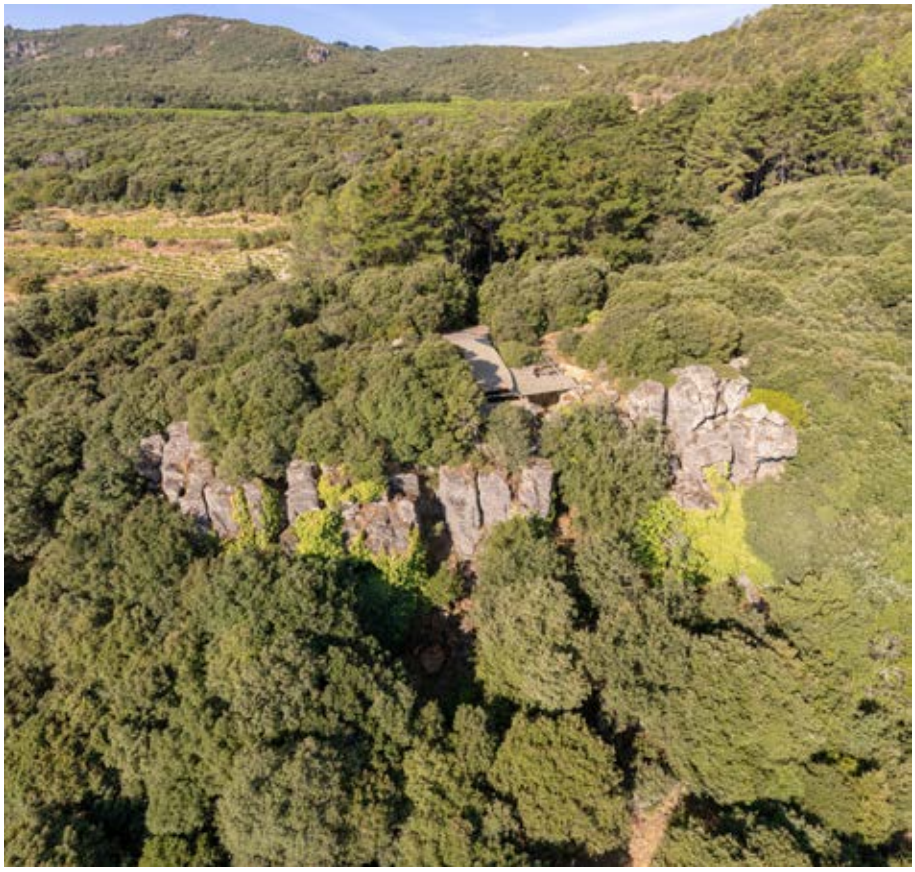
a) Brief synthesis

The "Art and Architecture in the Prehistory of Sardinia. The *domus de janas*" serial site includes 26 monumental complexes scattered across the territory of Sardinia, an island located in the center of the western Mediterranean Sea. These complexes were built between the 5th and 3rd millennium BCE and refer to the age between the Middle Neolithic Age and the Copper Age.
The proposed series allows the reconstruction of the daily life of the Sardinian communities in the final phase of Late Prehistory, through paradigmatic monuments of architectural types having specific civil, funerary, worship and/or magical-religious functions.
The scientific papers published during the last forty years have reconstructed the cultural system that was established in Sardinia during that period of time. The system remained rather consistent over time, despite being divided into multiple components (cultures*facies*), mostly based on the different types of shape and style characterizing their earthenware. Each culture was named after the place of discovery of its characteristic pieces of ceramics: Bonu Ighinu, San Ciriaco, Ozieri I e II cultures; Filigosa, Abealzu, Monte Claro, Bell Beaker culture; Bonnanaro, which marks the transition to the Bronze Age.
The selected monuments are an expression of the sedentary communities that permanently inhabited the island as early as the 6th millennium BCE. The similarities between the architectural structures and art manifestations and those of European and Mediterranean contexts can only be explained by recognizing the existence of attendance, contacts and interchanges, often determined by the search and supply of essential raw materials such as obsidian, which were available in Sardinia.
The scarcity of scientifically investigated settlements makes it difficult to reconstruct some aspects related to social organization and daily life. On the other hand, the funerary field is better known, evidenced by numerous typical hypogeal structures, the *domus de janas*, often used over the millennia: their decorative heritage, together with that decorations found inside the shelters, testify to the spiritual realm of the Neo-Eneolithic communities, expressing the complex system of beliefs and values that, although present in the Mediterranean and Euro-continental cultural substrate, were reworked and developed on the island with particularly genuine traits. As for the sacred, the Complex of Monte d'Accoddi is the only structure with a clear worship function. However, the funerary evidence suggests the existence of a cult of the dead and ancestors, with offerings, a regular attendance of the places, and a decorative apparatus of a magical-symbolic nature.

b) Justification for Criteria

(ii) The different monumental types and their specific decorative arts, characterizing the pre-Nuragic cultural system of the V-III millennium BCE, offers a tangible manifestation of the results of the interactions and interchanges that took place between the peoples which had settled in Sardinia, with the contemporary European and Mediterranean groups who built funerary hypogea and with those communities which performed megalithism. The monuments dating back to that time are indeed included in the great trends of hypogeism and megalithism, which characterized both the Mediterranean basin with its islands, and continental Europe during Prehistory. The great number of elements that testify to Sardinia's extensive relations with the outside world were selected and reworked locally, enriched and reinterpreted to meet the needs and socio-environmental requirements of Sardinian communities. And the results of both hypogeism and megalithism coexist and merge, even within an individual monument.

(iii) The Serial site is an exceptional testimony to the cultural system that characterized Sardinian prehistory in the long period of time between the Middle Neolithic and the Copper Age, until the Early Bronze Age. It was in the Middle Neolithic Age that the first artistic and religious manifestations were developed in Sardinia and that part of the settlers began to separate the spaces of the living from the spaces of the dead, by building the first hypogeal tombs, the *domus de janas*, which characterize the entire period. Despite being divided into multiple components (cultures/*facies*), the civilization of the recent Prehistory of the Island shows a remarkable cultural continuity; indeed, the number and variety of the exceptional monumental complexes known, exceeding 5,000, testify to a process of uninterrupted cultural development, which was interrupted by the following Nuragic civilization that marked a major change in the Island, also resulting in the end of those exceptional artistic trends characterizing the dec-



orative apparatus of prehistoric architecture and other contemporary productions.

(vi) The *domus de janas* and the other pieces of prehistoric evidence serve as the basis of Sardinia's recorded history for the recollection of magical events that still remain in the cultural tradition of the island, so as to summon, in several cases, the genius loci of many locations. The *domus de janas,* "Houses of the Fairies", in particular, have always been part of the collective imagery of the island's settlers and have been mentioned since the fourteenth century in the early literary sources in the Sardinian language. The *janas*, being at the center of a long-lasting oral tradition, have fascinated both Sardinian writers, such as Salvatore Cambosu and Literature Nobel Prize laureate Grazia Deledda, and foreign writers, such as ethnologist, linguist and German philologist Max Leopold Wagner, the father of Sardinian linguistics.

c) Statement of integrity

The site fully meets the criterion of integrity both as a whole, and with reference to individual monuments and complexes considering their decorative apparatus. The 26 component parts include all the elements necessary to express its Outstanding Universal Value, securing the full representation of the cultural characteristics and processes that developed across Sardinia during Late Prehistory.

The monuments and monumental complexes selected are the most representative, and best preserved, of the architectural types of the period of reference, both in terms of number of attributes and diversity and typological quality. They are closely related to the landscape context where they are embedded, whose visual-aesthetic integrity has remained almost unchanged. The natural processes of deterioration are under control, monitored by the competent authorities.

d) Statement of authenticity

All the nominated monumental complexes meet the criteria of authenticity in the form and design of the architectures and decorations, their materials, their construction and execution techniques, the pigments used and the contexts where they were made. Decorations are still legible and in their original positions. Scientific studies and sources of information, both written and visual (photographs, surveys and drawings), testify to the authenticity of the individual components of the serial site and its attributes.

e) Requirements for protection and management

All the assets identified in the composition of the serial Site are subject to the same regional and national rules and regulations on cultural heritage that ensure protection from any pressure or change that may affect the exceptional declared value. Tutti i complessi monumentali del sito, con i loro attributi, in particolare, sono oggetto di vincolo archeologico, livello più alto di tutela previsto dalla legislazione nazionale. They are therefore subject to a strict control system implemented by the local authorities and the Superintendencies, the peripheral bodies of the Italian Ministry of Culture.

The Management Plan developed for the nominated site will ensure the maximum level of cooperation among all stakeholders on the site and on the related buffer zone, marked to ensure the integrity of the view to and from the selected property.

a

b

DOMUS DE JANAS
ARTE E ARCHITETTURA NELLA PREISTORIA DELLA SARDEGNA.

PATRIMONIO MUNDIAL • WORLD HERITAGE • PATRIMOINE MONDIAL

4

ART AND ARCHITECTURE IN THE PREHISTORY OF SARDINIA

The domus de janas

STATE OF CONSERVATION AND FACTOR AFFECTING THE NOMINATED PROPERTY

State of Conservation and factor affecting the nominated property

4.a - Present state of conservation

Considering its environment and and the consistency of findings, the "Arte e architettura nella preistoria della Sardegna" serial site is a significant **testimony extraordinarily preserved** and having an exceptional balance between historical artifacts and the natural environment, established over the millennia.

Since they serve as tangible evidence, a unique and exclusive record of what they used to be, and a testimony to the civilizations which built them, the preservation of materials is an essential requirement for passing the values they bear on to future generations. Therefore, special attention has been paid to the study of the material aspects and the assessment of the wholeness of the monuments, not only in terms of mere surface preservation, but also in terms of structural safety and the landscape integrity of their context of reference.

The analytical study carried out on all 26 sites included: the geological survey and the exposure of critical geotechnical issues; the analysis of the materials and the identification of the forms of decay and degradation taking place on the surfaces; the structural characterization of the architectural components and the assessment of the stability of the artifacts; and the risk levels arising from factors or events of natural or anthropogenic origin which may affect the conservation of the site.

The rounds of assessment were conducted after a monitoring campaign when the following actions were taken: *in situ* investigations, with the collection of a limited number of selected samples, in order to carry out mineralogical and petrographic characterization analyses on the artifacts; the qualitative survey of the cracking pattern; and the assessment of any geotechnical instability conditions at artifact scale, and hydrogeological instability conditions at site scale.

Through the critical interpretation of results, this report was drafted to provide an overall view of the size of the nominated monuments. The evaluations covered the sites as a whole, but, for each of them, particular attention was paid to selected artifacts, considered by archaeologists to be paradigmatic in the historical and typological evolution of the nominated property. Depending on the nature and state of conservation of an individual site, categories of actions to be taken in the medium and long term were identified, taking into account what is already being done in several sites and the works which have already been arranged to solve or minimize ongoing issues. At the same time, risk factors were defined and their potential impact on conservation

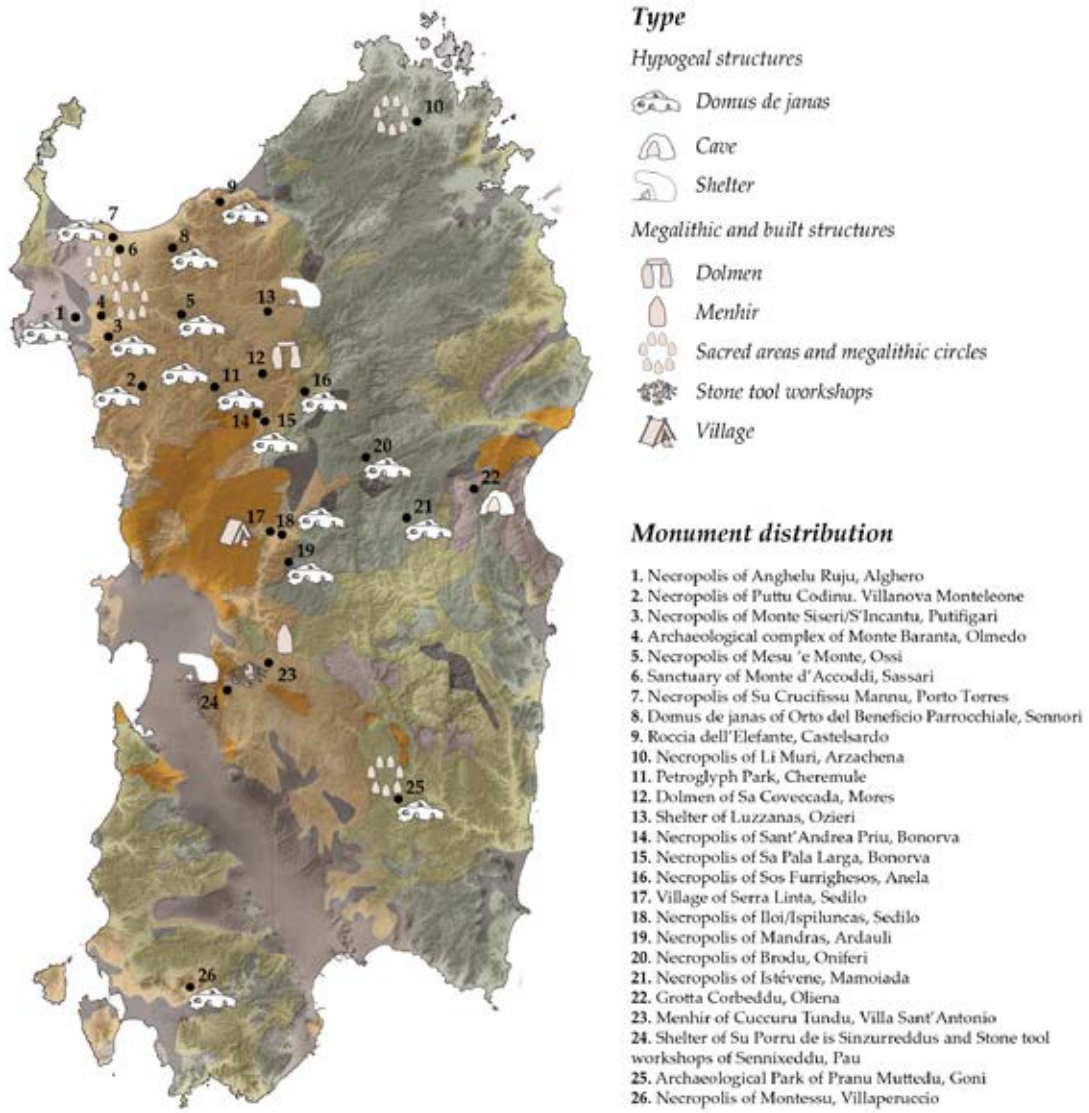


fig. 4.1 - Map of the types of monuments included in the serial site, divided into hypogeal structures, megalithic structures and built structures.

was analyzed. For each of them, reference was made to the institution responsible for implementing the actions and the action plans they have put in place to mitigate their effects.

Being compatible with the archaeological nature of the monuments, the **state of conservation of the artifacts** included in the WHL Nominated Property is **mostly good**, except for some critical situations described in detailed information sheets and for which adequate consolidation and restoration works have already been planned. All areas have been assigned the status of "property of cultural interest" under Italian conservation regulations (Art. 12-13, Legislative Decree 42/2004) and are, therefore, subject to constant monitoring by the competent authorities (Ch. 5).

In terms of conservation**,** the monuments included in the Serial Site can be divided into two macro-categories: hypogeal sites, shelters and caves; megalithic sites and dry-laid stone works (fig. 4.1). For each category, the peculiar elements of the environmental, lithological and morphological contexts where they rest, and the protection and conservation details are highlighted below.

4.a1 The state of conservation of hypogea, shelters and caves

4.a1.1 Interaction between monuments and their natural environment

There are many factors contributing to the assessment of the state of conservation of hypogeal monuments. Due to their intrinsic link with the natural environment where they were built, the first aspect that all types of this cultural heritage have in common is being an integral part of the natural context that hosts them, becoming a single "**nature and architecture monument**".
Therefore, one of the most **significant intrinsic values** is landscape and as a result, the first safeguarding factor to refer to is clearly related to the quality of the **environmental and landscape context** of reference. Most monumental complexes are located in isolated and untouched rural and mountain settings, which can still evoke the **poetic and perceptual dimension** of the primitive settlement landscape. Consider, for instance, the sites of Puttu Codinu in Villanova Montelenone (no. 2), Monte Siseri in Putifigari (no. 3), Mesu'e Montes in Ossi (no. 5), Su Crucifissu Mannu in Porto Torres (no. 7), the Petroglyph Park in Cheremule (no. 11), Sant'Andrea Priu (no. 14) and Sa Pala Larga (no. 15) in Bonorva, Sos Furrighesos in Anela (no. 16), Iloi/Ispiluncas in Sedilo (no. 18), Mandras in Ardauli (no. 19); Brodu in Oniferi (no. 20), Istevéne in Mamoiada (no. 21); Grotta Corbeddu in Oliena (no. 22), Su Forru de is Sinzurreddus in Pau (no. 24), Park of Pranu Mutteddu in Goni (no. 25) and Montessu in Villaperuccio (no. 26). This condition, which is clearly a strength for the conservation of the identity and authenticity of the monuments, brings with it factors that can make **maintenance, restoration, and the promotion of the artifacts complex and costly**. Only one site, the *domus de janas* of *Orto del Beneficio Parrocchiale*, Sennori (no. 8) is fully embedded in a village, while other necropolis are located In the outskirts of anthropized areas, mainly farmland, but without any impact on contextual landscape values, such as the site of Anghelu Ruju (no. 1) or the Shelter of Luzzanas (no. 13).
Most of the hypogea, caves and natural shelters are located in a **hilly landscape**, mainly on the front or back of rocky*cuestas*– Sant'Andrea Priu (no. 14), Sa Pala Larga (no. 15), Sos Furrighesos (no. 16), Mandras (no. 19), the Shelter of Luzzanas (no. 13) -, on the hillside of low-to-high hills – the Necropolis of Istevéne (no. 21),*domus de janas of* Orto del Beneficio Parrocchiale (no. 8), the Necropolis of Montessu (no. 26), Grotta Corbeddu (no. 22) -, on the slopes of erosional remnants – the Necropolis of Mesu 'e Monte (no. 5) - or on the sides of a plateau – the Necropolis of Iloi Ispiluncas (no. 18). Only three of these necropolises are dug on sedimentary rock substrates in a lowland/*pediment*, geomorphological context, on a structural terrace – the Necropolis of Anghelu Ruju (no. 1), the Petroglyph Park (no. 11) - or a hump - Su Crucifissu Mannu (no. 7). Exceptions are the *domus de janas* of Roccia dell'Elefante (no. 9), excavated in an erratic boulder, the relic of an ancient collapse prior to the excavation of the necropolis, and Tomb IV of the Necropolis of Istevéne, carved in a single granodiorite monolith.
A second intrinsic factor to be taken into account is the **complexity degree** (fig. 4.2), that is, the number of tombs within the area of discovery, but also the number of chambers of individual paradigmatic tombs (fig. 4.2). Although no significant connections were found between the

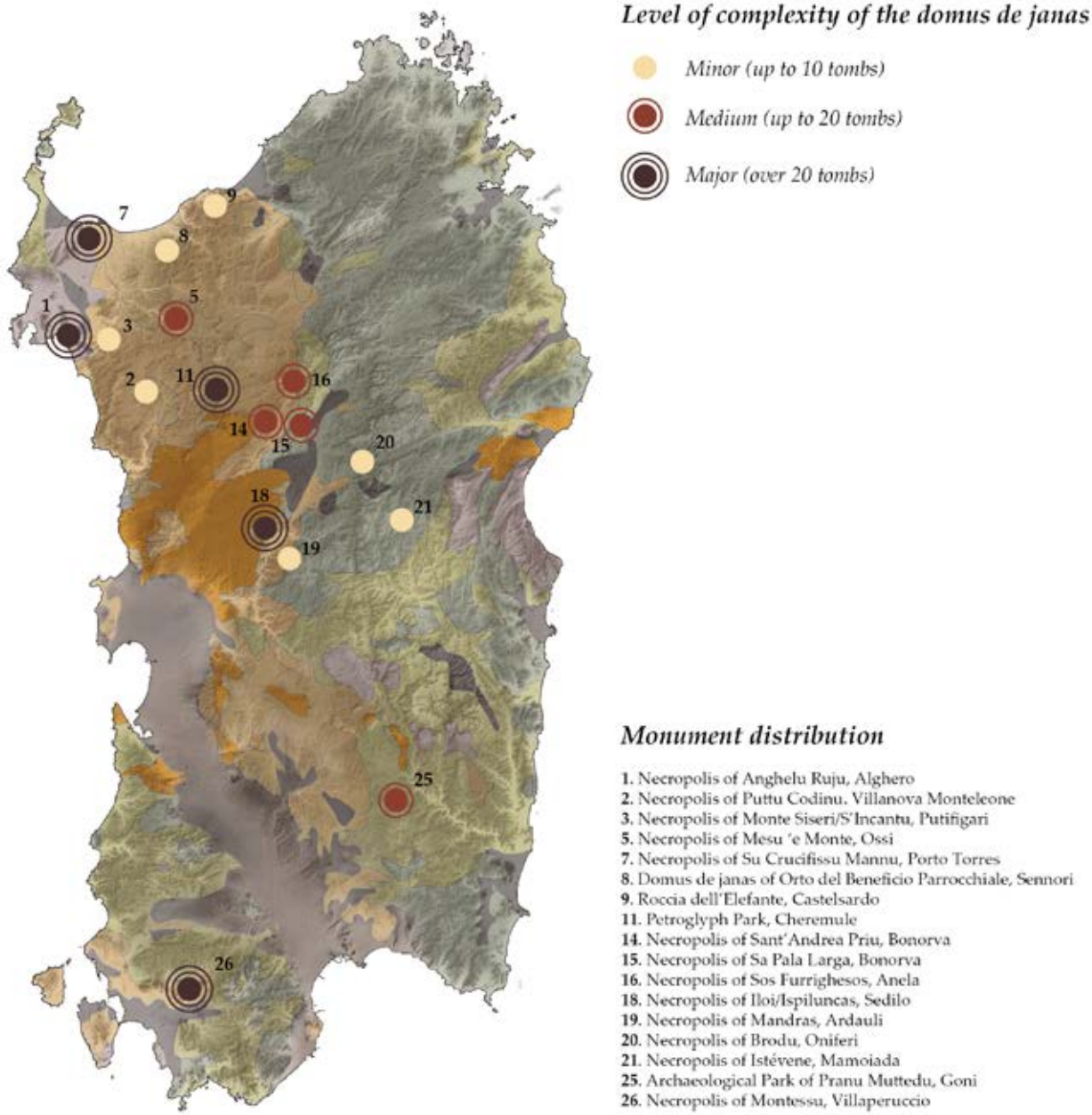
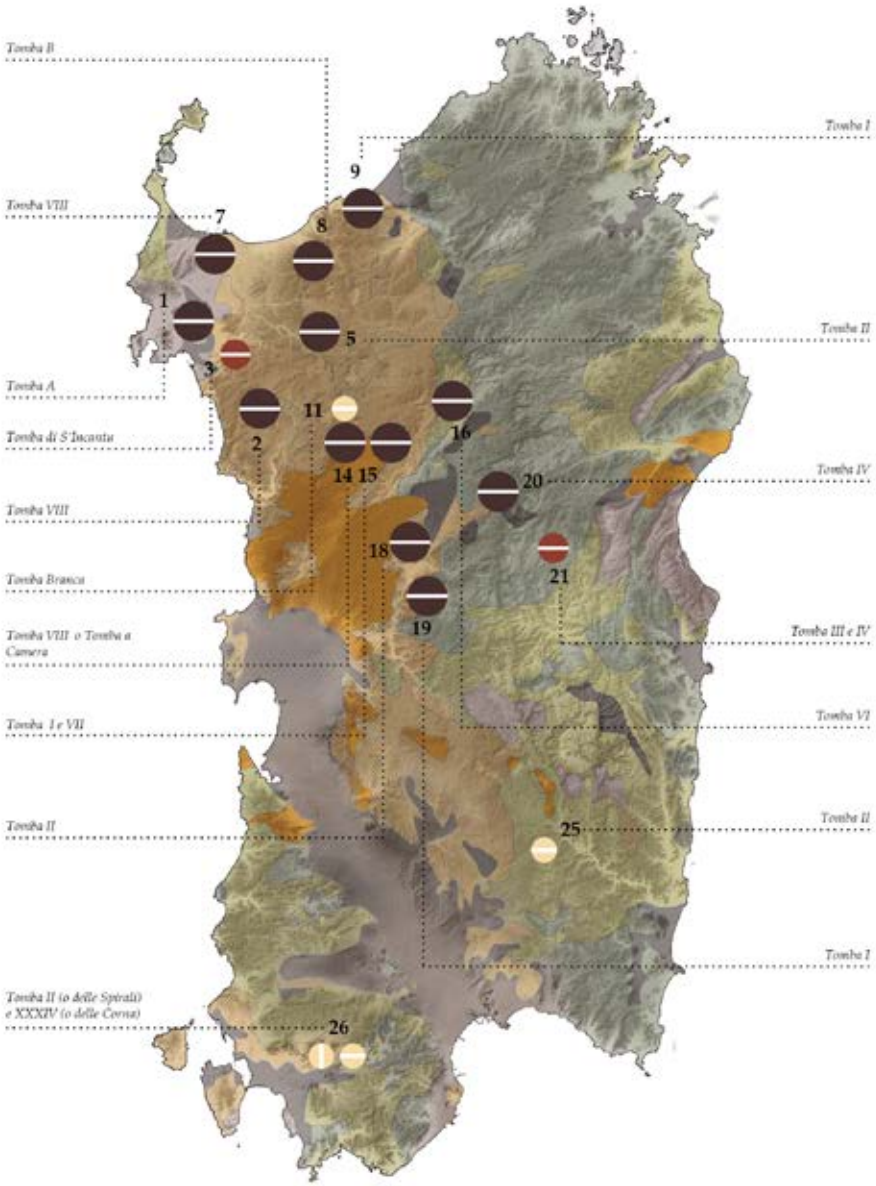


fig. 4.2 - Map showing the complexity of the hypogea (*domus de janas*).

complexity of the sites and their state of conservation, it is clear that the number of tombs and the levels of interior arrangement of individual funerary monuments can affect the design and management of monitoring, preservation and maintenance operations, requiring suitable human and financial resources. The monuments included in the Serial Site mostly show a **medium-to-high degree of complexity**, comprising areas deeply affected by the presence of a large number of tombs, often characterized by **a variety of sizes and levels of preservation**. Similarly, the tombs considered as of most interest (paradigmatic) are **mostly multi-chamber**, with a complex interior layout. This is to be put in relation to the fact that, from a lithotechnical point of view, the hypogea are mainly dug



Articolazione della tomba paradigma

- *Monocellulare*
- *Bi-tricellulare*
- *Pluricellulare*

- *A pozzetto verticale*
- *A proiezione orizzontale (dromos)*

Inquadramento monumenti

1. Necropoli di Anghelu Ruju, Alghero
2. Necropoli di Puttu Codinu, Villanova Monteleone
3. Necropoli di Monte Siseri/S'Incantu, Putifigari
5. Necropoli di Mesu 'e Montes, Ossi
7. Necropoli di Su Crucifissu Mannu, Porto Torres
8. Domus de janas dell'Orto del Beneficio Parrocchiale, Sennori
9. Roccia dell'Elefante, Castelsardo
11. Parco dei petroglifi, Cheremule
14. Necropoli di Sant'Andrea Priu, Bonorva
15. Necropoli di Sa Pala Larga, Bonorva
16. Necropoli di Sos Furrighesos, Anela
18. Necropoli di Iloi/Ispiluncas, Sedilo
19. Necropoli di Mandras, Ardauli
20. Necropoli di Brodu, Oniferi
21. Necropoli di Istevéne, Mamoiada
25. Parco archeologico di Pranu Muttedu, Goni
26. Necropoli di Montessu, Villaperuccio

fig. 4.3 - Map of the complexity of the paradigm monument.

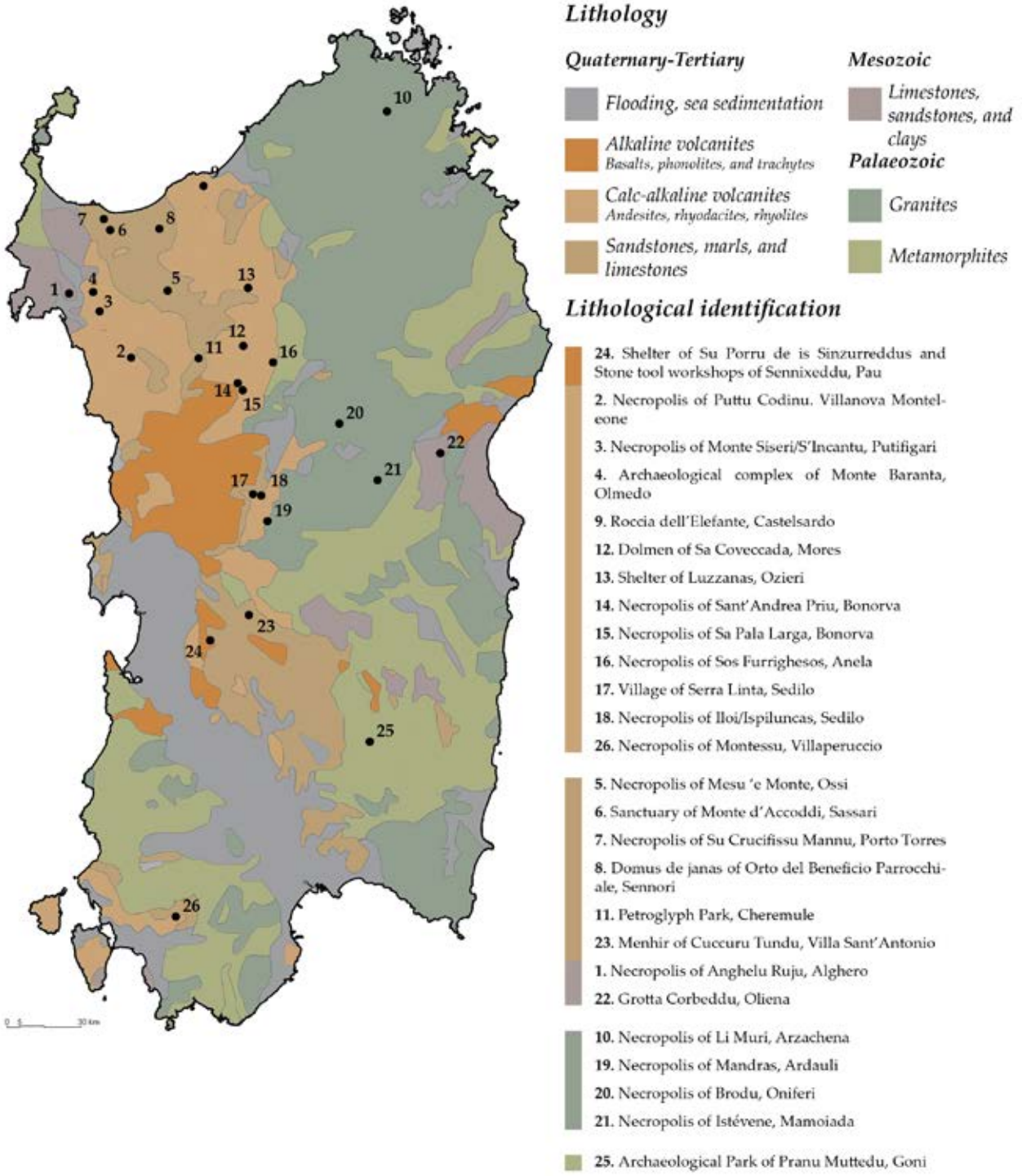


fig. 4.4 - Monument distribution map based on the geological and lithological contexts of Sardinia.

in soft rocks, easily workable, and with good mechanical characteristics (volcanic tuffs, calcarenites, sandstones) that facilitated the excavation of complex systems consisting of several rooms and chambers. However, there are several examples of small excavations made of harder rocks, such as plutonites, and conglomerates, such as the Necropolis of Istevéne (no. 21) and Pranu Mutteddu (no. 25).

As shown by the map in fig. 4.4, the monuments of the Serial Site are scattered in areas characterized by **alkaline and calc-alkaline volcanites** (17 cases) or **sandstones, marls and limestones** (9 cases). The artifacts located in areas rich in **granite or metamorphites** are less numerous.

In general, as far as underground sediments are concerned, they were mainly made of volcanic rock mainly rhyolitic, differing from each other in the ratio of groundmass/phenocrysts, the presence or absence of quartz, and medium-welded to welded textures.

Mostly, **volcanic tuffs** are pyroclastic deposits in ignimbritic *facies* featuring rhyolitic or rhyo-dacitic chemism, locally associated with cinerites in the upper part of the deposit. They appear as rock masses with a fissured or poorly fractured structure with a range of main gaps, slightly to poorly degraded, almost parallel to the slope extrados, characterized by high stratum inclination, and wide or very wide spacing. More rarely, they feature a localized fractured or chaotic structure with moderately to very degraded gaps, such as in the cases of Tombs I, IV, V, VI, VII, VIII, XIX, XVI of the Necropolis of Iloi Ispiluncas (no. 18); Tombs 1, 2, and 3 of the Necropolis of Sa Pala Larga (no. 15); and Tombs 14 to 28 of the Necropolis of Montessu (no. 26).

Sedimentary rock masses feature a structure with horizontal or sub-horizontal stratigraphy, such as in the cases of the Necropolis of Anghelu Ruju (no. 1), the Petroglyph Park (no. 11), or in a landslide pattern, such as in the case of Grotta Corbeddu (no. 22).

Geomorphological and lithological factors mainly affect slope stability, as detected during the survey, and may affect the entire site – the Shelter of Luzzanas (no. 13), the Necropolis of Mesu 'e Montes (no. 5), Grotta Corbeddu (no. 22), the Necropolis of Sos Furrighesos (no. 16), the Shelter of Su Forru de is Sinzurreddus (no. 24) - or only parts of it. This condition is mainly reported for larger sites that show a wider geomorphological and lithological variability, such as, for example, the Necropolises of Iloi Ispiluncas (no. 18), Montessu (no. 26), Sant'Andrea Priu (no. 14) and the Complex of Pranu Mutteddu (no. 25).

For some sites, it was possible to identify additional factors triggering the decay observed, such as the **erosion at the foot** of Riu Buttule for the Necropolis of Sos Furrighesos (no. 16), or anthropogenic factors related to quarry operations for Tomb X of the Necropolis of Sant'Andrea Priu (no. 14) (fig. 4.5).

In general, the significance of hydrogeological, meteorological, or anthropogenic factors should be carefully assessed through an suitable monitoring system and more in-depth analyses of slope stability.

The **types of movements detected** are those typical of rocky clusters with rapid to very rapid kinematics: such as collapses (fig. 4.5), overturning, planar landslides (fig. 4.6) and lateral s preads (fig. 4.7). In the absence of an active monitoring system, their activity is to be considered quiescent.

Limited to of the Necropolis of Istevéne (no. 21), the presence of a more complex slope movement with slow kinematism (fig. 4.6). is detected

fig. 4.5 - Necropolis of Sant'Andrea Priu, Bonorva: debris from landslides and the formation of open fractures on top of the cliff at Tomb X.

fig. 4.6 - Necropolis of Istevéne, Mamoiada: granodiorite blocks with discontinuous bedding planes, note the inclination of the tall vegetation in the background.

fig. 4.7 - Pranu Mutteddu, Goni: example of lateral spread of conglomerate blocks.

indirectly (sloping tree vegetation breakage by relative sliding of some carved elements in the *domus de janas* etc.).
In some cases, active and passive risk mitigation operations are present and documented: such as tension rods and fiberglass reinforcements

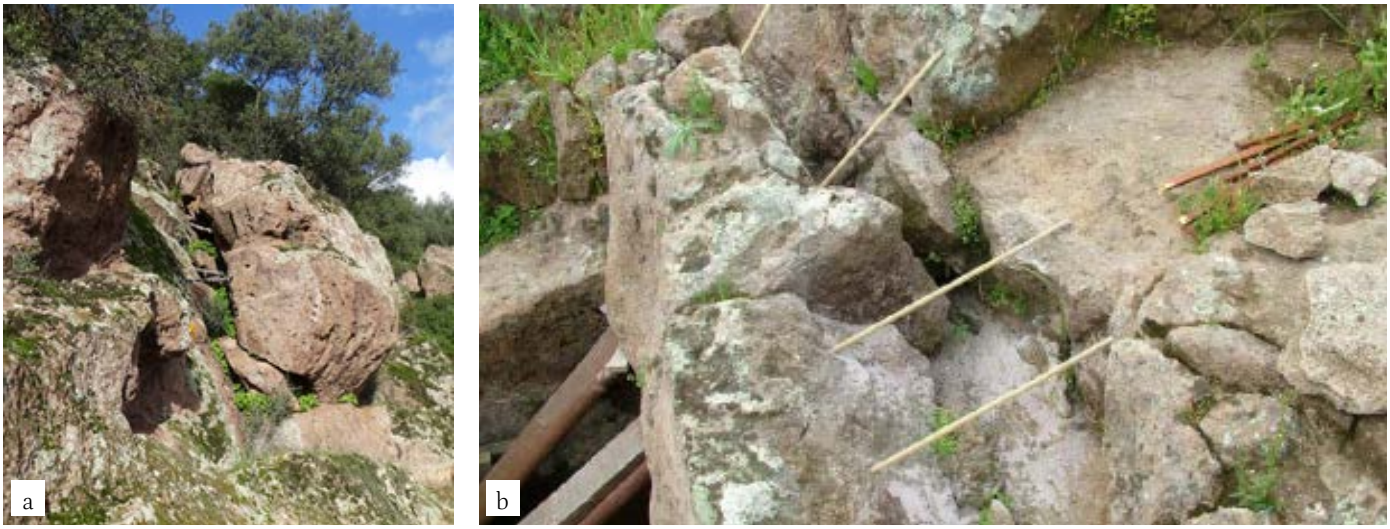


fig. 4.8 - Necropolis of Montessu, Villaperuccio: a) anchored unstable boulder; b) anchored using fiberglass bars (Source. Project A1 "Restauro e valorizzazione delle emergenze della necropoli di Montessu", Arch. Gianluca Zini, December 2015).

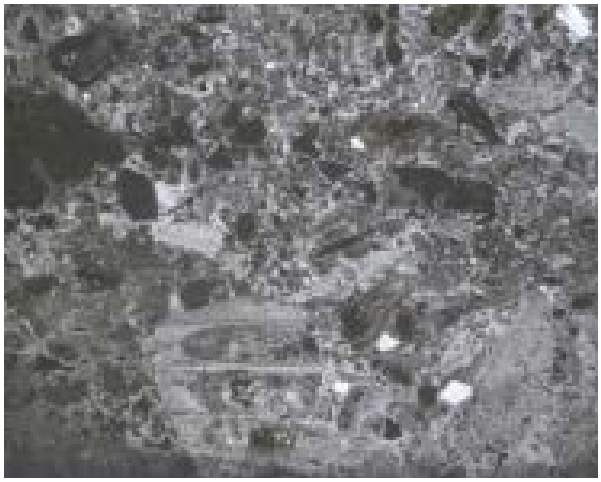
(Necropolis of Montessu, no. 26, fig. 4.8a and fig. 4.8b), rockfall nets, retaining walls and monitoring system (Necropolis of Sant'Andrea Priu, no. 14, fig. 4.9), hydraulic-forestry work as in the cases of the Necropolis of Iloi Ispiluncas (no. 18), the Necropolis of Pranu Mutteddu (no. 25), and the Necropolis of Mesu 'e Montes (no. 5).

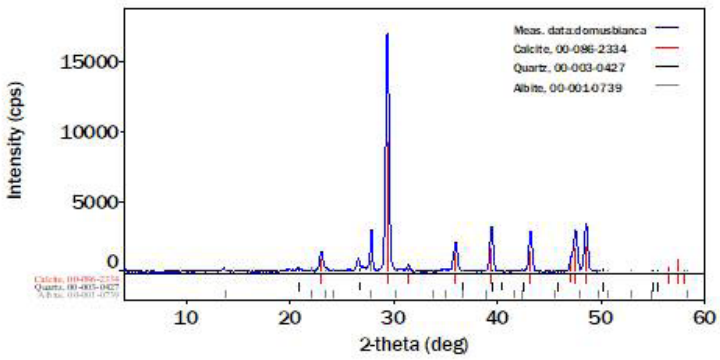
fig. 4.9 - Necropolis of Sant'Andrea Priu, Bonorva: a) rockfall nets and b) strain gauge installed near Tomb V; c) walls supporting the protruding parts of the rocky wall.

4.a1.2 Surface conservation

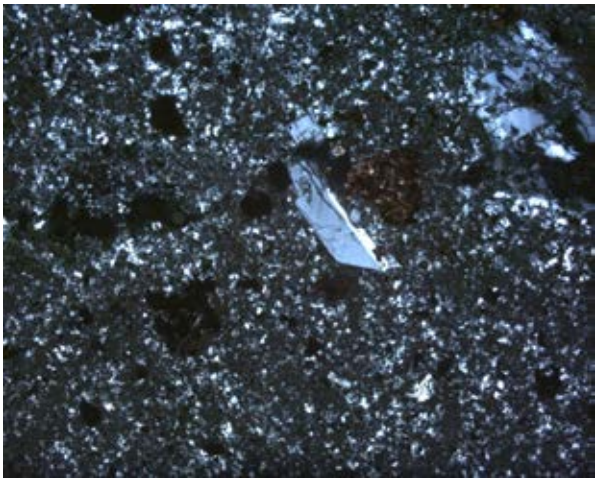
Each lithological nature of the monuments affects how architectural surfaces are subject to decay and degradation, which can easily be traced back to the mineral-petrographic characteristics of the fundamental material. As for the most widespread material of these sites, microscopic analysis of **rhyolites** shows the inherent textural and structural characteristics of the material, characterized by good compactness, low porosity and low brittleness (figs. 4.10-4.11-4.12-4.13). Slow erosion induced by exogenous events causes an increase in the material's **surface roughness**resulting in a **moderate bioreceptivity**, i.e., the presence of deposits of biological nature and encrustations of natural or anthropogenic origino. Natural degradation (weathering) is therefore rather low, such that it does not significantly affect the preservation of the surfaces.

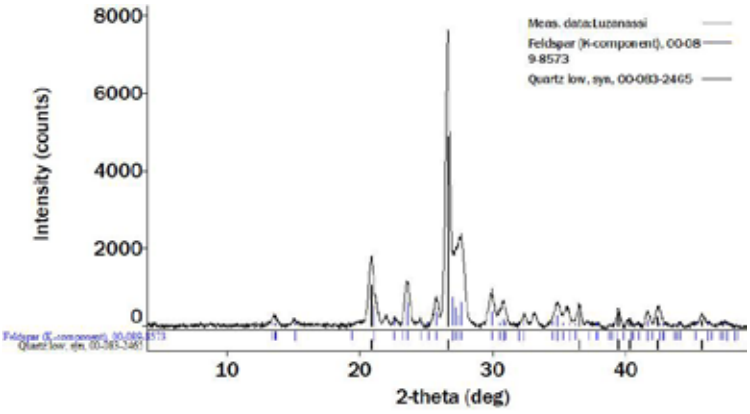
On the other hand, weathering is significantly more intense in those sites which are made of **limestone rocks** (figs. 4.14-15), where the intensity of plant colonization and surface erosion is generally greater.



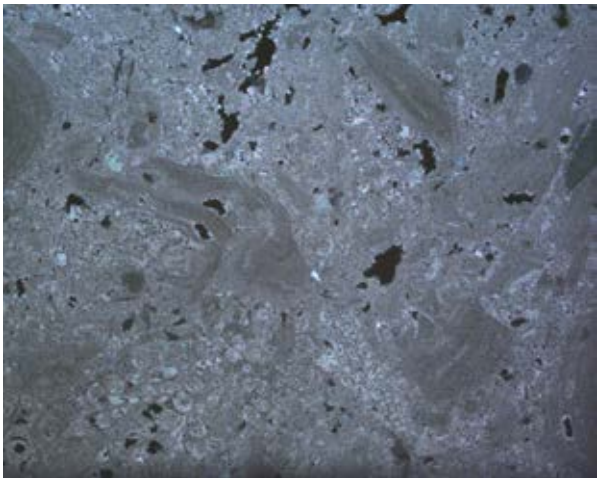


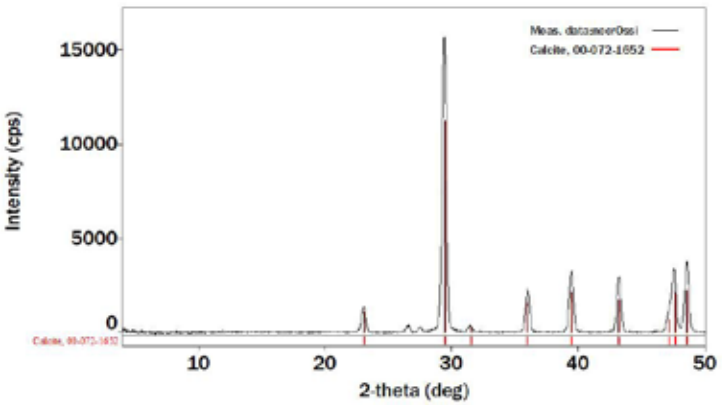
figs. 4.10/4.11 - Puttu Codinu, Tomb VII, 2.5X polarized light microscopy micrograph on weakly degraded limestone, with traces of gypsum. X-ray diffractogram clearly showing the reflections of calcite and gypsum.





figs. 4.12/4.13 - Luzzanas, 2.5X transmitted polarized light microscopy microphotography on vulcanite with microcrystalline background paste and quartz phenocrystals and plagioclase (albite oligoclase). X-ray diffractogram showing the reflections of quartz and feldspars.





figs. 4.14/4.15 - Mesu 'e Montes, 2.5X polarized light microscopy macrophotography on limestone with a micritic structure, not very brittle. X-ray diffractogram of calcite reflections.

The lithological nature affects both the state of conservation of the site as a whole, and individual architectural surfaces.
In relation to the conservation of surfaces, it is useful to divide them into **undecorated surfaces** and **surfaces decorated with relief and painted motifs**.
In the first case, there is an **overall excellent state of conservation, with perfectly legible excavation results.** The main aggressive factors are environmental, that is, induced by natural events related to hydrogeological conditions, the characterization of the stone, the presence of vegetation and weathering.
The other natural element the monumental system must find a balance with, for conservation purposes, is **water**. The relationship between the necropolis and the waterways, that has a clear symbolic and relational value, is widely documented and studied. There are many *domus de janas* built near a watershed, a stream or, in any case, facing a valley crossed by a river. Therefore, most tombs are affected by high humidity levels, due to their proximity to aquifers. However, the most significant water intake in the hypogea comes from rainwater. The rain seeps in through the hatches, as windward water, and as a result of runoff on the surfaces outside the tombs, and infiltration through gaps and fractures, and it often remain inside the rooms, even with periods of heavy stagnationo. The removal of water from the hatches had probably already been addressed in ancient times, with the creation of canals, both outside and inside, to remove water from the entrance and the chambers. Examples include the Tomb of S'Incantu in the Necropolis of Monte Siseri in Putifigari (no. 3) and Tombs I and III in Sa Pala Larga in Bonorva (no. 15).
Therefore, overall, all the hypogea, both those currently open and those sealed as a result of restoration operations, coexist with water, that seeps in infiltration as groundwater or rainwater: as a matter of fact, a **delicate environmental balance has been established between water and the artifact** that has consolidated over time and that, regardless of some critical situations, keeps the building in a good state of conservationo. The **presence of water** results mainly in chromatic changes, water marks and, on the stone portions affected by earthy surface sediments and exposed to natural

lights, the growth of brown-green biological patinas that, in most cases, do not affect the material conservation of the artifact and, in general, do not substantially change the spatial and symbolic perception of the monuments. The different **solar irradiance** of surfaces, due to the variable orientation of the hypogea – as in the case of Tomb B in Sennori (no. 8, fig. 4.16) and Tomb III in Istenéve (no. 21) –, or the presence of preferential routes of water percolation, as in Puttu Codinu (no. 2) and Su crucifissu mannu (no. 7), have determined a different **distribution of patinas** on specific areas of the artifact in many tombs; in other cases, as in Sos Furrighesos (no. 16), biological colonization has evenly and extensively affected the entire monument.

Biological patinas are found, to a lesser extent, also inside the restricted access hypogea, such as Sa Pala Larga (no. 15) and S'Incantu (no. 3). A very special case is Tomb VII of Sa Pala Larga in Bonorva, where the biological patina is mostly found on black paint, with thick layers having glossy bluish reflection in the grazing light. The tomb is under constant supervision of

fig. 4.16 - Interior view of the biological colonization affecting limited portions.

the Superintendence, that monitors its environmental parameters and the conservation of its valuable decorated surfaces.
The presence of **surface sediments** is common to all open hypogea, having a variable thickness and grip to the substrate, consisting of accumulations of incoherent materials such as dust, soil, guano.
On the other hand, there are no misuse situations to be reported, other than temporary or permanent visitation by animals. Some hypogea are regularly visited by **wild animals** such as goats, wild boars, etc., but above all, bat colonies are reported.
Finally, the most widespread change factor is **weed vegetation, which varies in magnitude and aggressiveness**: from herbaceous individual plants to shrubs, up to large trees. In general, it mainly includes creeping grass or small plants, including ferns with root systems incapable of causing significant damage to surfaces. For this reason, mowing and weeding is regularly performed in most sites, by removing the crown of the plant without using mechanical equipment that could cause severe damage to the structures. However, in some situations, such as in Tomb II of the Necropolis of Ispiluncas in Sedilo (no. 18), deep cracks caused by the growth of the root systems of local trees are shown, infiltrating the rock face where the artifact was excavated. Another potentially critical situation is found in Brodu in Oniferi

(no. 20) due to the presence of eradicated tall trees in the rock-bed where the necropolis rests. In relation to this aspect, the operations carried out in 2020 in the Necropolis of Mandras in Ardauli (no. 19) to remove and devitalize the tree stumps covering the area of the tombs seems to have been particularly effective.
However, in some circumstances, the vegetation exerted a stabilizing action on the natural context, helping to prevent landslides and collapses.
However, **erosion is extremely more alarming.** In some types of lithotypes, which are more persistent, erosion leads to **decay**, increasing the roughness of the surface and facilitating the accumulation of earthy deposits and, as a result, the bio-receptivity. More advanced processes evolve into gradual **spalling** and **fracturing**, as in the case of the argillification of the volcanite found in Sa Pala Larga in Bonorva (no. 15, fig. 4.17) and the decay of the rocky material in the Shelter of Is Sinzurreddus in Pau (no. 24, fig. 4.18).

In the tombs excavated in limestone and sandstone, erosion occurs by **pulverization** and **washout**, resulting in even substantial (several centimeters) losses of stone structures, resulting in cross-section reduction and change of the original geometric arrangement. In some cases, as in Roccia dell'Elefante (no. 9), erosion has led to the opening of small gaps.
Other results of surface erosion, typical of the outer walls directly exposed to the wind, are **alveolization** and **pitting**. Erosion events also include anthropogenic act of scraping the surface while entering and leaving the rooms while visiting the hypogea. This process is, of course, limited to the floor threshold of the hatches and their access steps, if available.

fig. 4.17 - Rock argillification is the most significant type of degradation of the rock-bed where the *domus de janas* of Sa Pala Larga in Bonorva are excavated. The detail shows the rock floor of the *dromos* of Tomb 1.

fig. 4.18 - Disruption by fracturing of the the rock found in the Shelter of Is Sinzurreddus in Pau.

Another factor compromising the integrity of artifacts is the **loss of portions of the artifact**. The most substantial losses occurred in the past when people tried to breach into and loot the rooms, or following accidental events, often occurring when the tombs were discovered. The actions taken during those events in the past, even if they are no longer compatible with the current restorative cultural approaches, serve as an added value, since they testify to a conservation history lasting almost a century.
The most significant **additions** are certainly the **roofing systems** or the **confinement shells**. We refer in particular, to the rural building covering the Tomb of S'Incantu at Monte Siseri (no. 3) and the corten steel structures used in Tomb VII in Sa Pala Larga in Bonorva (no. 15), but also in Tomb XV in Sos Furrighesos in Anela (no. 16). Those buildings, including the one built on Tomb III of the Necropolis of Mandra Antine in the outskirts of Thiesi, were built between the 1990s and the 2000s under the supervision of the Archaeological Superintendence and allowed the protection of the valuable painted tombs from environmental attack and vandalism. However, the difficult joint of attachment of the roofs to the rock walls and the use of corten steel on reinforced concrete structures sometimes resting on archaeological perimeter structures have triggered water infiltration that requires further maintenance, restoration and monitoring.
With regard to surface alteration/degradation factors, what has been mentioned above also applies to **caves** and **shelters**.

4.a1.3 Stability and safety

Regarding **structural safety conditions**, the inspections carried out highlighted the general absence of significant issues, with very few exceptions. Due to the unique nature of the hypogea, structural problems are always associated to the presence of hydrogeological instability factors and with the ongoing of surface degradation.
The most frequent **forms of structural failure** at the various sites have been classified according to four aspects: cracking pattern; masonry instability/collapse mechanisms; gaps/detachment; and erosion/decohesion/cross-section reduction.
The **cracking patterns** found on the excavated surfaces of tombs, on architectural elements and in the immediate vicinity of monuments are of varying nature and have different levels of severity. Depth, amplitude, and *patterns* define the **degree of associated severity**, dependent on the magnitude of the displacements from which they originate. In some cases it is a **surface crack** that can be regarded as "degradation of the surfaces", without current structural implications except on its integrity, as in the case of the Necropolis of Orto del Beneficio Parrocchiale a Sennori (no. 8), or Brodu in Oniferi (no. 18); in other cases it is a **deep crack**, which, in some partition elements, can become a passing crack, as in the case of Tomb I of the Necropolis of Ispiluncas (no. 8), the Complex of Istevene in Mamoiada (no. 19), or Roccia del Toro in the Necropolis of Sant'Andrea Priu (no. 14). The distinction between deep or surface cracking was made, as usual, in relation to the thickness of the element affected.
Cracking *patterns,* when arranged according to specific configurations of through cracks, may introduce or result in instability events, commonly referred to as "collapse mechanisms", in continuity and connection with the geotechnical issues already mentioned. These events are the most critical ones and, in general, whether a cracking patter may evolve into an extreme situation needs to be assessed well in advance. In hypogeal artifacts, collapse mechanisms are rare and require very special extreme conditions because they involve significant displacements and rotations that are generally prevented. No occurrences of such events were recorded during the inspections. However, in the case of tombs excavated on a rocky slope, stability is linked to the conditions of the slope or portions

figs. 4.19/4.20 - Cracking patterns in Tomb I of the Complex of Ispiluncas, Sedilo (OR).

figs. 4.21/4.22 - Cracking patterns in the Complex of Istevéne, Mamoiada (UN).

of it, when fractured, and thus they are related to geologic-geotechnical hazard issues (figs. 4.19- 4.20-4.21-4.22-4.23-4.24). The cases of Ispiluncas (no. 16), Mesu 'e Montes (no. 5), Sant'Andrea Priu (no. 14) are to be referred to this type.
Cracking patterns can be confused, overlapping and interacting with **natural gaps** in the rock structure and must be properly distinguished from them. Indeed, past events, such as formation events, imply the presence of gaps, e.g., stratigraphic discontinuities, which can be described as "natural" and generally stable (figs. 4.25-4.26). These gaps, in turn, may interact unfavorably with more recent natural or anthropogenic events (figs. 4.27-4.28). This is the case of the Necropolis of Brodu (no. 18), or

figs. 4.23/4.24 - Funerary complex of Mesu 'e Montes, Ossi (SS).

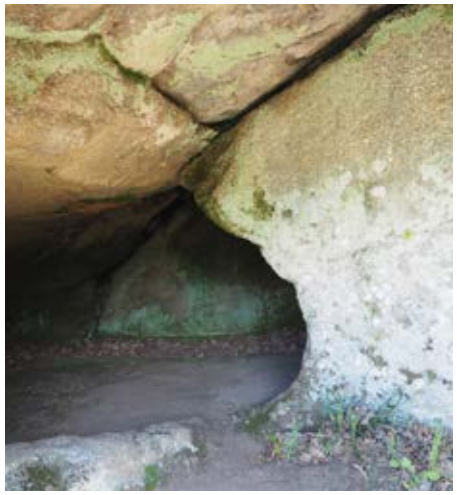
figs. 4.25/4.26- Cracking patterns and natural gaps in the Complex of Brodu, Oniferi (NU)

figs. 4.27/4.28 - Cracking patterns in Tomb II of the Complex of Ispiluncas, Sedilo (OR).

figs. 4.29/4.30- Cracking patterns on Roccia del Toro in the Complex of Sant'Andrea Priu, Bonorva (SS).

Istevene (no. 19). It is therefore necessary to analyze not only the current configuration, but also its **evolutionary characteristics**, drafting, for this purpose, surveys which map the configuration and local characteristics of the cracking patterns over the medium and long term.
The **causes** of these degradation are mainly connected to movements exerted on the rock mass hosting the artifact, as a result of the change of equilibrium based on the different scales of geological observationo. The displacements may, indeed, involve limited or extensive portions of the artifact, or the entire mass or slope that hosts it (figs. 4.29-4.30-4.31-4.32-4.33). In the latter case, the disruption will have to be addressed as a **geotechnical issue**. The displacement resulting in distortive effects, determines stress peaks that induce the formation and development of cracks, possibly interacting with the rock stratigraphic structure. The primary causes of changed equilibrium are either natural or anthropogenic. **Anthropogenic activities** that can lead to cracking disruptions include: excavation or demolition operations using mechanical and explosive equipment as part of quarrying or monument looting, activities related to infrastructural works, agricultural activities, and, less frequently, vandalism.
In rarer cases, cracking patters could be connected to events such as freeze-thaw cycles, or significant thermal gradients, on a daily or seasonal time scale. Occasionally, the progression and aggravation of cracking

figs. 4.31/4.32/4.33- Cracking patterns and natural gaps in the Complex of Istevéne, Mamoiada (NU).



figs. 4.34/4.35- Cracking patterns and root systems in Tomb II of the Complex of Ispiluncas, Sedilo (OR).

patterns, rarely the initiation thereof, are affected by the growth of trees and root systems which thrive, creep into the cracks, even of small width, and develop by expanding and widening the cracks, thus promoting run-off figs. 4.34-4.35), as in Tomb II of the Complex of Ispiluncas (no. 16). With regard to **gaps** and **detachments**, reference is made to the partial or total detachment of more or less deep portions from the wall surfaces, or from the elements, generally as the natural evolution of major cracks or washouts; historical cases range from **superficial spalling** or **delamination** to **the loss of significant portions** (figs. 4.36-4.37-4.38-4.39-4.40-4.41), as in Su Crucifissu Mannu (no. 7), Brodu (no. 18), or Tomb I of Ispiluncas (no. 16).
Sometimes, detached portions could not be found, because they were dissolved, shattered or removed, or found intact at the foot of the point of detachment. Detachments are particularly severe when they occur on surfaces or decorations, or on elements characterizing the architecture of the artifact. If the event is be considered the result of a deep crack or a traumatic event (impact, act of vandalism), it may lead to the structural weakening of particularly critical elements from the structural point of view, because they are the spot of maximum stress, such as: pillars,

figs. 4.36/4.37- Gaps and detachments in the Complex of Crucifissu Mannu, Porto Torres (SS).

figs. 4.38/4.39- Detachments and delamination in the Complex of Brodu, Oniferi (NU)

figs. 4.40/4.41- Gaps and detachments in Tomb I of the Complex of Ispiluncas, Sedilo (OR).

partition walls, the shield of entrances, hatches, vaults, lintels. In such a case, the damage could worsen.
As stated above, the causes have been traced to the aggravation of events previously discussed in relation to cracking patterns, or to runoff and erosion, which will be discussed in the next sectiono. Occasionally, this type of damage is caused by unintentional or deliberate human actions, as in cases of vandalism or looting on decorations.
In several cases examined, the surfaces of walls, vaults, and various compositional elements that have been exposed to rainwater and weathering, as well as biological attack, are the place where **erosion**, **decohesion** and progressive **cross-section reduction** occur (figs. 4.42-4.43-4.44-4.45-4.46-4.47-4.48-4.49). Particularly noteworthy are Anghelu Ruiu (no. 1), Puttu Codinu (no. 2), Mesu 'e Montes (no. 5) and Su Crucifissu Mannu (no. 7). This problem, already addressed as surface degradation, in those cases where it has been extended over time, but also when the action has been forceful, can produce a significant loss of thickness and volume, to the point of becoming structurally critical. The historical cases examined involved pillars, partition walls, vaults, parapets and hatches.
Particularly persistent is the **runoff** caused by stormwater, percolating, or infiltrating inside monuments. Especially in hypogeal artifacts, the inflow of water can be visible and result in frequent flooding. When conditions favor it, a major flow of water may reinforce mechanical erosiono. The effects are enhanced in the presence of lithic stones, such as sandstones, incompact pyroclastites, limestones and calcarenites, where mechanical erosion is combined with the action of chemical dissolution (e.g., at the expense of calcium carbonate).
Another agent that, in the long run, has an erosive effect is **wind**, especially in combination with rainfall. Frequently, the erosion of specific surfaces was recorded precisely because of their unfavorable exposure to winds that channeled the battering action of rainfall.
In a few cases, freeze-thaw cycles, and daily and seasonal temperature gradients were likely to have affected the monument due to its particular exposure.
Erosion was unlikely to be triggered directly by infesting **trees, root systems, moss and lichens**; however, there is no doubt that their presence poses a greater risk, insofar as they can exert pressure and promote water infiltrationo. Of course, the main causes are the exposure conditions mentioned above.
In addition to the hypogea, special reference should be made to Grotta Corbeddu (no. 22), where no significant issue is to be reported, with respect to the damage categories discussed above. There were some

figs. 42/43 - Erosion in the Complex of Angelo Ruiu, Alghero (SS).

figs. 4.44/4.45 - Erosion in the Complex of Puttu Codinu, Villanova Monteleone (SS).

figs. 4.46/4.47 - Erosion in the Complex of Mesu 'e Montes, Ossi (SS).

figs. 4.48/4.49 - Erosion in the Complex of Su Crocifissu Mannu, Porto Torres (SS).

slope-related stability issues and minor instability situations at the entrance, resulting from average recent collapses, which will require minor securing works for the purpose of visitation.
As for the shelters, unlike the Luzzanas site (no. 13), the Shelter of Su Forru de is Sinzurreddus in Pau (no. 24) features a specific stratigraphic structure that make it fragile and prone to the detachment of spalling and scaling. Specific protection works will be required for the purpose of tourist visitation.

4.a2 The state of conservation of megalithic sites and dry-laid stone structures

4.a2.1 Interaction between monuments and their natural environment

Unlike hypogeal sites, megalithic structures – menhirs, dolmens, *alleèes couvertes* and funerary circles – and built complexes are located in lowland/*pediment* geomorphological conditions, as in the case of the Sanctuary of Monte d'Accoddi (no. 6) and the Village of Serra Linta (no. 17); on top of a plateau, such as the Complex of Monte Baranta (no. 4), or peneplain, such as the Complex of Pranu Mutteddu (no. 25); more rarely, along the slope or on top of low hills, as the case of the Necropolis of Li Muri (no. 10), the Dolmen of Sa Coveccada (no. 12) and the Menhir of Cuccuru Tundu (no. 23).
Considering these geomorphological conditions, the observed hydrogeological instability is ordinary, with the exception of the Complex of Monte Baranta and, in particular, for the so-called "tower-fence", located near the edge of the high cliff, featuring retrogressive collapse-tilting in a quiescent state.
However, the relationship with the natural environment is **reciprocal**, both in terms of **monument-environment interaction** and in relation to the **landscape context**.
A unique case is the Village of Serra Linta (no. 17), regularly flooded by the waters of Lago Omodeo, which have facilitated its preservation, but at the same time, are part of a dynamic environment to be monitored and managed, following its flooding and retreat cycles.

4.a2.2 Surface conservation

As far as surface preservation is concerned, the lithological nature of the artifacts, that basically replicate the same historical cases, is the reason why these monuments also feature types of change and degradation which are quite similar to those already described for hypogea, with the artifacts having a less complex nature, geometry and layout.
Menhirs, dolmens and funerary circles are affected by chromatic changes, surface sediments, slight erosion – by alveolization, pitting and spalling – and the presence of biological patinas, mainly moss and lichens, all of which do not affect the conservation and integrity of the monuments.
Similar events could be seen on the surfaces of the built structures.
More severe conditions are found in the Dolmen of Sa Coveccada (no. 12, figs. 4.50-4.51), consisting of vulcanite boulders, a material that has proven to be particularly brittle on the surfaces exposed to weathering, where it shows significant micro- and macro-scaling. This process has already required repeated conservation operations in the past: sealing and bonding are particularly visible in terms of extent, surface and color choices.

figs. 4.50/4.51- Erosion in the Complex of Sa Coveccada, Mores (SS).

4.a2.3 Stability and safety

As already mentioned regarding the hypogea, the instability and the development of collapse mechanisms are greater in megalithic structures having a simple structural layout, such as trilithon or orthostats emplaced by gravity, as is the case with menhirs and dolmens. In these cases, the collapse of the bedrock, the erosion operated at the base by rainwater and the mechanical stress caused by the root systems are again potentially responsible for the decay. However, the cases examined have undergone recent restoration and are constantly being monitored and maintained, so they do not pose significant risks. Some bear the signs of past anthropogenic activities, especially looting and vandalism.
Special attention should be paid to the Dolmen de Sa Coveccada (no. 12), that is still being investigated and monitored, as well as subject to relatively recent structural consolidation works. Widespread surface erosion and spalling are reported, which deteriorate the surfaces and can potentially result in more extensive structural issues where the material is thinner and subject to greater mechanical stress (figs. 4.50-4.51-4.52-4.53).
Unstable conditions and collapse mechanisms, resulting from deep cracking or disintegration, are likely to occur in tall structures, in particular when

figs. 4.52/4.53- Cracking patters on the ceiling of the Dolmen of Sa Coveccada, Mores (SS).

dry-laid walls are used, being particularly fragile. In these cases, foundation failures, rainwater-induced erosion, and mechanical stresses caused by tree root systems are responsible for most of the failures. However, no significant event in this regard was reported in the cases examined, either because they are of negligible magnitude, or because they have already been overcome by previous operations, or because maintenance activities are periodically performed, as in the case of Monte d'Accoddi (no. 6, figs. 4.54-4.55-4.56). Some minor instability was found in the cyclopean masonry of the Complex of Monte Baranta (no. 4, figs. 4.57-4.58), which may be resolved with a minor relocation, cleaning and top protection operations.

figs. 4.54/4.56 - Cyclopean walls of the Sanctuary of Monte d'Accoddi, Sassari.

figs. 4.57/4.58 - Cyclopean walls of the megalithis complex of Monte Baranta, Olmedo.

4.a3 Overview of the state of conservation of the sites and recommended operations

As show by what has been described so far, overall the conservation status of the sites can be described as very good (fig. 4.60). In general, it is worth emphasizing that some **typical elements of decay** – mentioned for the sake of scientific rigor and analytical completeness in the in-depth fact sheets dedicated to the analysis of the state of conservation of each site – are to be considered **fully compatible with the conservation of the artifacts** and, also, with the protection of the landscape values associated with the nominated monuments. Reference is made to the **biological patinas** found, e.g. on the extrados of the rocky hills that host the necropolis, or on the *dromos* walls or even on the orthostats of megalithic structures or on the ashlars of built structures. Such 'patinas' are, as a matter of fact, a landscape factor and need to be monitored and controlled, without necessarily removing them completely, given the protective function they offer against the much more dangerous erosive events.
On the surfaces inside the hypogea, however, such patinas can become particularly thick and lead to **aggressive sedimentation**, triggering chemical degradation processes. This is the case of the fungal colonization found in the Necropolis of Sa Pala Larga (no. 15), but also, to a lesser extent, the biological layers covering the bucrania of Tomb B in the *domus de janas* of Orto del Beneficio Parrocchiale in Sennori (no. 8), or even the patina and lampblack deposits in the Necropolis of Sos Furrighesos in Anela (no. 16). In these and the rest of the cases described in the info sheets, where these processes are found mostly and in greater quantity on paintings or decorative elements, controlled **campaigns to clean surfaces are recommended**, after removing or at least minimizing the cause of biological proliferation, and identifying the biocide to be used.
The main factor for such colonization is water. Therefore, in the presence of localized or diffuse biological covers, possible infiltrations must be identified; inlet canals need to be grouted, especially if they include fractured surfaces; stagnation needs to be prevented by means of solutions that prevent rainwater from entering the chambers of the hypogea, or solutions need to be found to drain the seeping water, naturally compatible with the protection of the artifacts.
Flooding is quite common and, in many cases, compatible with the natural scale of the sites. However, some regular floods need to be addressed because of the particular vulnerability of the monuments. Reference should be made to Tomb II in Montessu (no. 26); Tomb I in Mandras (no. 19), Tombs I and III in Sa Pala Larga (no. 15), in Anghelu Ruju (no. 1), in Su Crucifissu Mannu (no. 7), and in the Petroglyph Park (no. 11). In some of these cases, and in particular in Tomb II in Montessu (no. 26), Tomba Branca in the Petroglyph Park (no. 11), and Tomb VIII in Su Crucifissu Mannu (no. 7), the possibility of adding a protective cover should be considered. As for smaller gaps, as in the case of Roccia dell'Elefante (no. 9), it might be enough to add fillers and small shells, as it was done in Tombs I and III of Sa Pala Larga (no. 15). In all the cases affected by erosion, it will be necessary to operate through constant monitoring.
Regarding **infesting vegetation**, the presence of minor herbaceous species can be governed through regular mowing and weeding, to be carried out under the supervision of an archaeologist in the spring months, at the peak of

vegetation growth. As mentioned above, more attention should be paid to the few cases affected by large infesting plants: particular reference is made to the large roots which are heavily damaging the Ispiluncas site (no. 18) and threatening the Brodu site (no. 20). Despite having a minor extent, Pruning is also important at the Necropolis of Tennero in the Petroglyph Park (no. 11), in Sa Pala Larga (no. 15), in Mesu 'e Montes (no. 5) and in Anela (no. 16). Finally, special attention should be paid to all those cases where a significant cracking pattern or major instability have been found. Overall, some of the most significant cases are mentioned, namely the Necropolis of Ispiluncas (no. 18), the Dolmen of Sa Coveccada (no. 12) and Su Forru de is Sinzurreddus (no. 24). Sites to be carefully monitored are Luzzanas (no. 13), Sant'Andrea Priu (no. 14) and Sa Pala Larga (no. 15), especially focusing on the natural stone cracking patters. In terms on erosion processes, the sites in Sennori (no. 8), Su Crucifissu Mannu (no. 7), Puttu Codinu (no. 2) and Roccia dell'Elefante (no. 9) need to be monitored too. The paradigmatic Tomb of Pranu Mutteddu (no. 25) also needs timely operations.

Remedies to crack-related collapses can only be designed after an analysis of the level of their severity, especially in evolutionary terms, and root causes. In principle, removing the cause is the ultimate remedy for failure, especially when significant volumes of rock are involved. On the other hand, root cause analysis requires a broader view of the problem and its development. Therefore, except in those cases where the situation is immediately clear, it is necessary to complement the survey activities with **geotechnical/structural monitoring activities**. Monitoring will have to be designed and operated in such a way that their evolution, in terms of the speed and acceleration needed to reach a stable or unstable conditions, is clearly defined and free from interference. In those rare cases where the analysis of the cracking pattern is not clearly visible, the survey activity can be accompanied by a **non-destructive evaluation** (NDE) that indirectly check the presence of gaps.

Where global monitoring and examination of the phenomenon lead to large-scale displacement of the rock mass, the operation may be classified as geotechnical and will be operated through systems designed to secure the area. If the cracking pattern is the result of an individual event or biological attack, or once it has been determined that the process has stabilized, and only if deemed necessary, cracked elements may be secured through localized operations such as:

- **seams and micro-seams** using composite (FRP), titanium, or stainless steel reinforcement bars, inserted and grouted in holes drilled following a layouts suitable for effectively reconnecting disconnected parts;
- **structural bonding** in cases of major detachments through compounds with suitable tensile strength and adhesion, compatible with the characteristics of the substrate both mechanically and chemically;
- **crack repairs** using compatible mixtures with suitable rheological properties (fluidity, injectability, thixotropy) to restore structural continuity.

In the presence of detached portions, after a careful assessment conducted jointly with the archaeologists, the elements can be moved and secured to the holder using **nails** and/or **glue**; if they are not fully detached, they can be secured using **micro-nails**, possibly combined with low-pressure consolidating injections, which will restore the internal gaps and allow for a more effective nailing.

Surface decay and weathering

Degradation of anthropogenic origin from historical or recent use

Flooding, percolation and runoff events

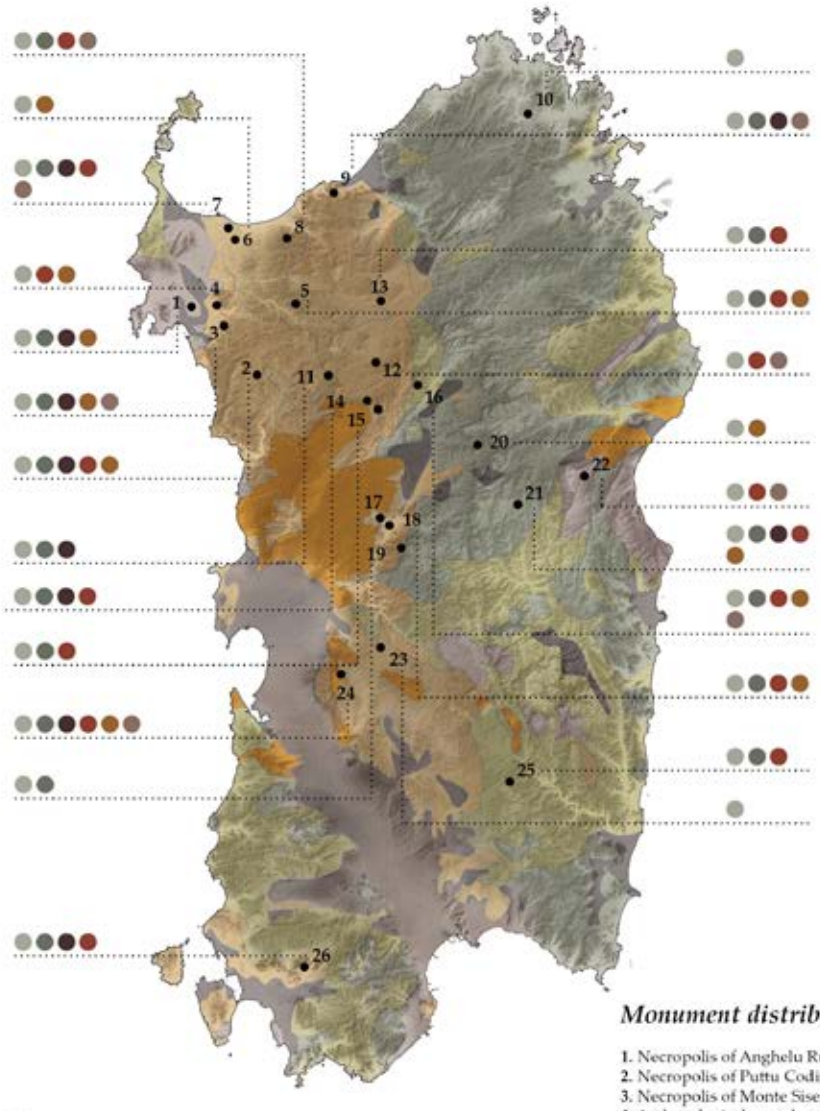
Structural and/or geotechnical instability and criticality

Lacunae

Surface weeds

figs. 4.59, 4.60 and 4.61, summarize the current pathologies, the overall assessment of the state of conservation of each site, as well as the suggested operations, as summarized in this introduction and illustrated in each of the sheets to follow.
All conservation and maintenance operations, both ongoing and future ones, are and will be conducted (as described in Ch. 5) under the close supervision of the territorial offices of the Ministry of Culture (Superintendencies), which are directly or indirectly responsible, in each territory, for the conservation of public heritage. This ensures a well-grounded and reliable methodological approach consistent with the criteria and theories of the Italian school of restorationo.
The images and tables below summarize the nature and distribution of the degradation factors (figs. 4.59/4.59a-f), the state of conservation (figs. 4.60/4.60a-f) and the extent and percentage distribution of the recommended restoration operations (figs. 4.61/4.60a-f).

fig. 4.59 a/f - Percentage distribution of the main factors of decay and degradation.



Decay

- *Modification of surfaces and weathering*
- *Flooding, percolation, and runoff*
- *Gaps*
- *Structural and/or geotechnical instability and critical state*
- *Large infesting plants*
- *Decay of anthropogenic origin due to historical and recent use*

Monument distribution

1. Necropolis of Anghelu Ruju, Alghero
2. Necropolis of Puttu Codinu. Villanova Monteleone
3. Necropolis of Monte Siseri/S'Incantu, Putifigari
4. Archaeological complex of Monte Baranta, Olmedo
5. Necropolis of Mesu 'e Monte, Ossi
6. Sanctuary of Monte d'Accoddi, Sassari
7. Necropolis of Su Crucifissu Mannu, Porto Torres
8. Domus de janas of Orto del Beneficio Parrocchiale, Sennori
9. Roccia dell'Elefante, Castelsardo
10. Necropolis of Li Muri, Arzachena
11. Petroglyph Park, Cheremule
12. Dolmen of Sa Coveccada, Mores
13. Shelter of Luzzanas, Ozieri
14. Necropolis of Sant'Andrea Priu, Bonorva
15. Necropolis of Sa Pala Larga, Bonorva
16. Necropolis of Sos Furrighesos, Anela
17. Village of Serra Linta, Sedilo
18. Necropolis of Iloi/Ispiluncas, Sedilo
19. Necropolis of Mandras, Ardauli
20. Necropolis of Brodu, Oniferi
21. Necropolis of Istévene, Mamoiada
22. Grotta Corbeddu, Oliena
23. Menhir of Cuccuru Tundu, Villa Sant'Antonio
24. Shelter of Su Porru de is Sinzurreddus and Stone tool workshops of Sennixeddu, Pau
25. Archaeological Park of Pranu Mutteddu, Goni
26. Necropolis of Montessu, Villaperuccio

fig. 4.59 - Summary of the distribution of the main factors of alteration and decay.

Overall state of preservation

- *excellent*
- *good*
- *moderate*
- *satisfactory*
- *poor*

Monument distribution

1. Necropolis of Anghelu Ruju, Alghero
2. Necropolis of Puttu Codinu. Villanova Monteleone
3. Necropolis of Monte Siseri/S'Incantu, Putifigari
4. Archaeological complex of Monte Baranta, Olmedo
5. Necropolis of Mesu 'e Monte, Ossi
6. Sanctuary of Monte d'Accoddi, Sassari
7. Necropolis of Su Crucifissu Mannu, Porto Torres
8. Domus de janas of Orto del Beneficio Parrocchiale, Sennori
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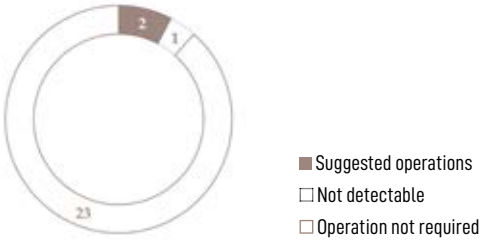
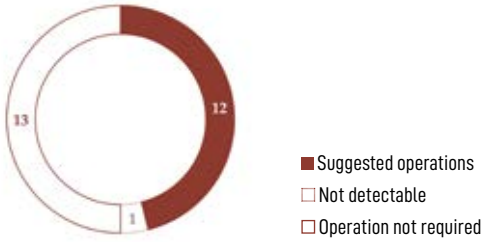
11. Petroglyph Park, Cheremule
12. Dolmen of Sa Coveccada, Mores
13. Shelter of Luzzanas, Ozieri
14. Necropolis of Sant'Andrea Priu, Bonorva
15. Necropolis of Sa Pala Larga, Bonorva
16. Necropolis of Sos Furrighesos, Anela
17. Village of Serra Linta, Sedilo
18. Necropolis of Boi/Ispiluncas, Sedilo
19. Necropolis of Mandras, Ardauli
20. Necropolis of Brodu, Oniferi
21. Necropolis of Istévene, Mamoiada
22. Grotta Corbeddu, Oliena
23. Menhir of Cuccuru Tundu, Villa Sant'Antonio
24. Shelter of Su Porru de is Sinzurreddus and Stone tool workshops of Serrixeddu, Pau
25. Archaeological Park of Pranu Muttedu, Goni
26. Necropolis of Montessu, Villaperuccio

fig. 4.60 - Map of the overall state of conservation based on the current state and percentage recap.

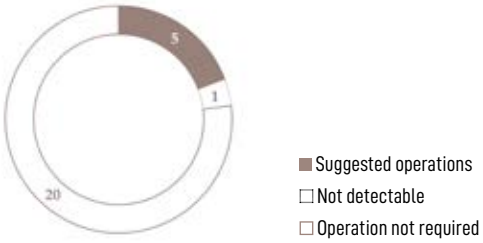
Isolation in a controlled environment



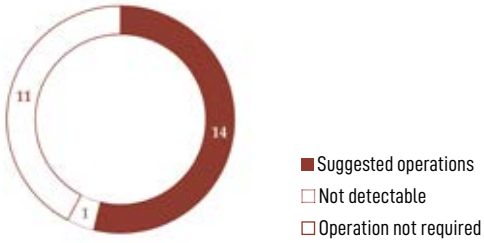
Consolidation of detached parts



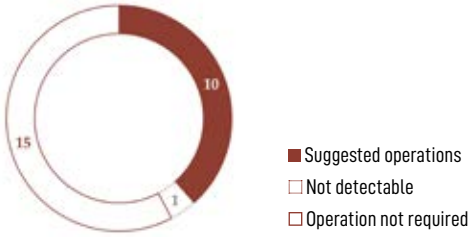
Covers



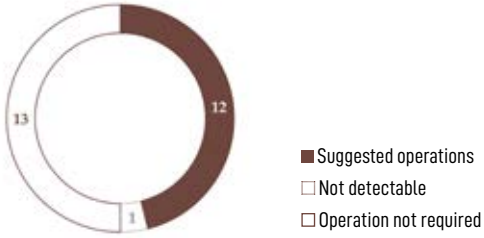
Bonding and grouting



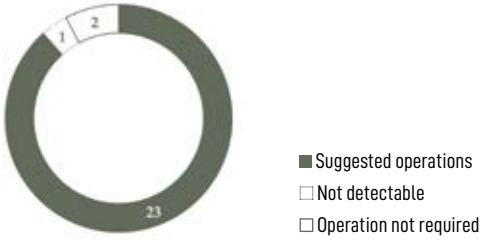
Integration of gaps/partial reconstructions of missing parts



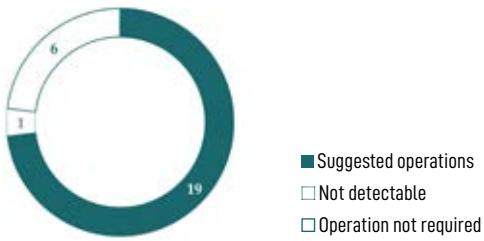
Hydrogeological risk mitigation operations



Cleaning from patinas and encrustations



Water regulation



Removal/containment of weeds

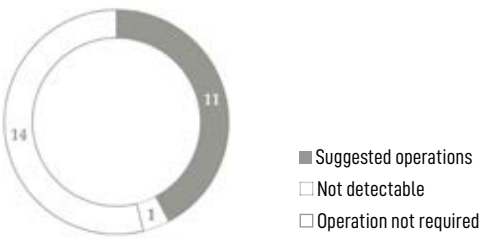


fig. 4.60 a/i - Summary of the main operations.

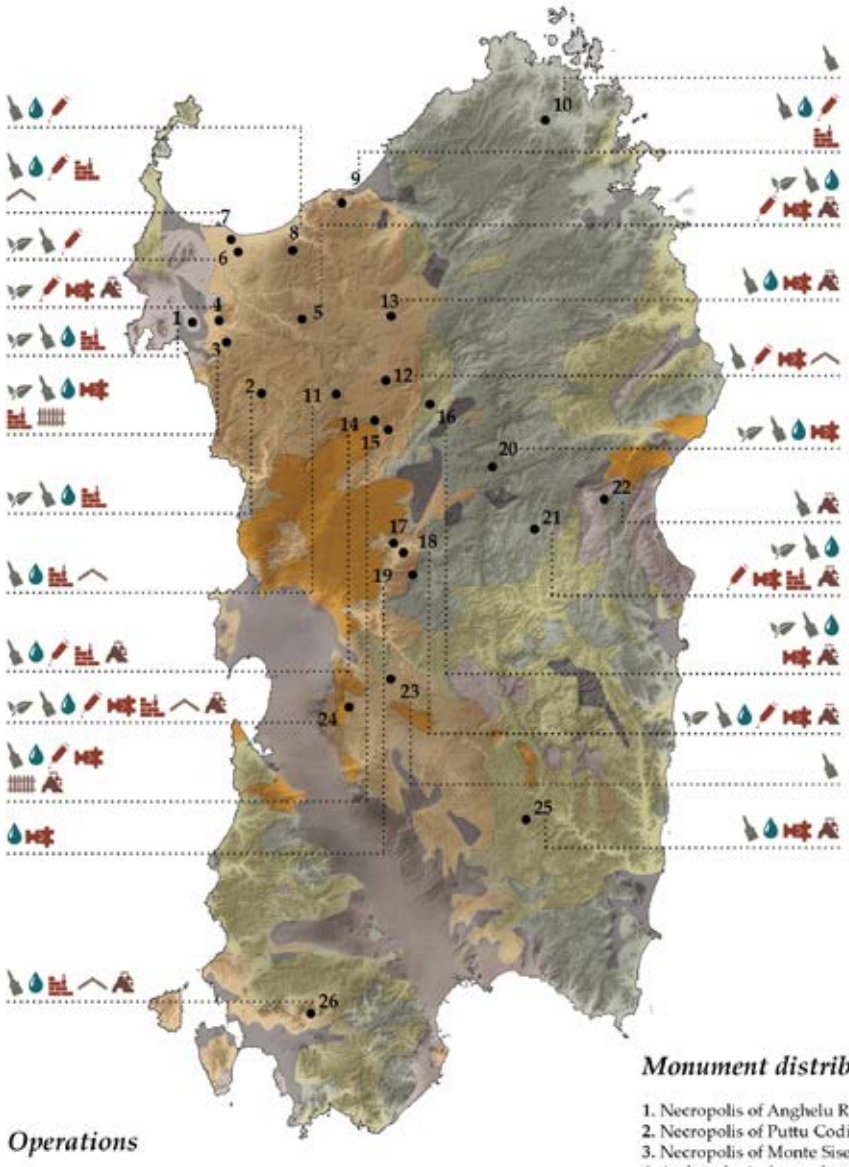
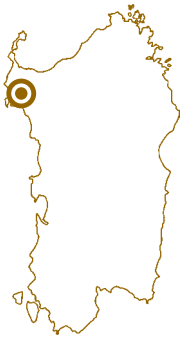


fig. 4.61 - Summary of the main operations and percentage impact analysis.

001.
NECROPOLIS OF ANGHELU RUJU

Alghero



SP 42 dei Due Mari, 07041 Alghero SS
J8MG+6H Alghero, Sassari Province

The necropolis of Anghelu Ruju is located in north-western Sardinia, a short distance from the city of Alghero (SS), on a plain crossed by Rio Filibertu. The necropolis consists of thirty-eight tombs, all attributable to the *domus de janas*, type, with the exception of Tomb XXVI that is a pit tomb. The hypogea are divided into two groups: seven of them are located in the flat area, thirty-one of them on top and along the northern and eastern foot of a small limestone sandstone hill. The so-called tomb A (fig. 1) serves as an example of the tombs found across the whole necropolis, being multi-chamber and featuring significant relief decorations of its surfaces.

fig. 1 - Tomb A.

Stone materials and finishings

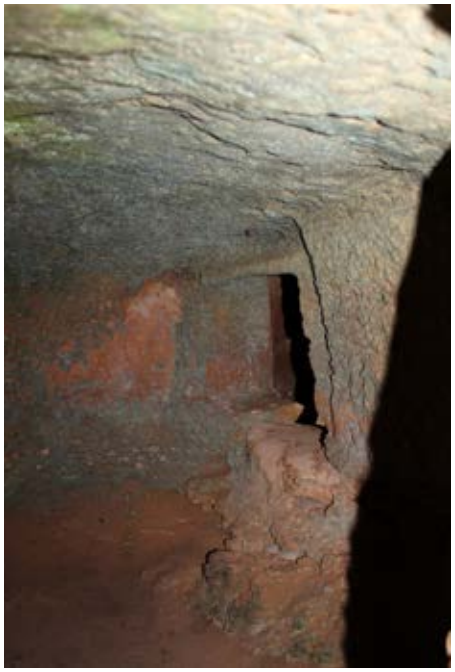
Being located in the southern sector of the Nurra area, the site is located on a structural terrace of Pleistocene sandstones and aeolian sands, up to 5 m thick (Portovesme System), overlooking a bank of coarse-grained sandstone and conglomerate (Oppia Nuova formation). Further down, ash-flow tuffs (pyroclasts of Monte Miale Ispina, Monte San Pietro and Olmedo) characterized by rio-dacitic chemism surfacing locally in the Riu Filibertu stream-bed (figs. 2-3). Overall, the necropolis is in a good state of preservation. Stone surfaces

fig. 2 - Geological map of north-western Sardinia, folio 192, Alghero, scale 1:100,000

are affected by slight decay and degradation, mainly due to weathering and the presence of water. In particular, erosion phenomena are observed with a differential and punctual loss of material, clearly visible above all in the junction between the floor and the walls of the chambers of the paradigmatic tomb (Tomb A). This process is due to the different erosion resistance offered by the multiple layers of

the tuffs. On the surfaces, erosion is also shown by a general coarseness increase and the consequent biological colonization.
The presence of percolation, stagnation and infiltration water is to be considered the main cause of widespread chromatic changes, biological patinas, surface sediments and, albeit to a lesser extent, the development of small herbaceous plants, which are, in any case, rooted in the cracks of the walls, in small surface cavities and on the floor (fig. 3). The features described above (figs. 5-6) are part of the delicate environment-monument balance typical of archaeological sites that requires constant monitoring and regular maintenance.

fig. 3 - Decay and degradation affecting the external surfaces of Tomb A. In particular, the image shows the presence of weed species rooted in the rocky walls and occasional stagnation of water, in addition to the naturalweathering in progress.



figs. 4/5 - Details of the erosion taking place at the foot of the walls of the chambers and in the thresholds of the doors inside Tomb A. The presence of biological colonization affecting the walls and ceilings of the chambers is to be noted.

Stability and safety

Given the geomorphological characteristics, the necropolis does not show the signs of geological instability. Local surface erosion and limited collapses affecting small volumes of material are reported where the excavations took place, but the structural and geotechnical stability of the site is not affected. The geomorphological hazard compared to the potential *sinkhole-type* mechanism is also low.
Although the zoning does not directly include the area of the necropolis, the slope of the bank of Riu Filibertu that marks the southern border of the necropolis is reported to have a medium landslide risk level (fig. 6). Indeed, in the area, the river erosion can trigger retrogressive landslides which could involve some tombs. For the same reason, PAI Sardegna also identifies the Riu Filibertu stream bed as an area of high hydraulic hazard, considering the presence of the critical crossing point of the SP5 road (fig. 7) upstream.

Landscape preservation

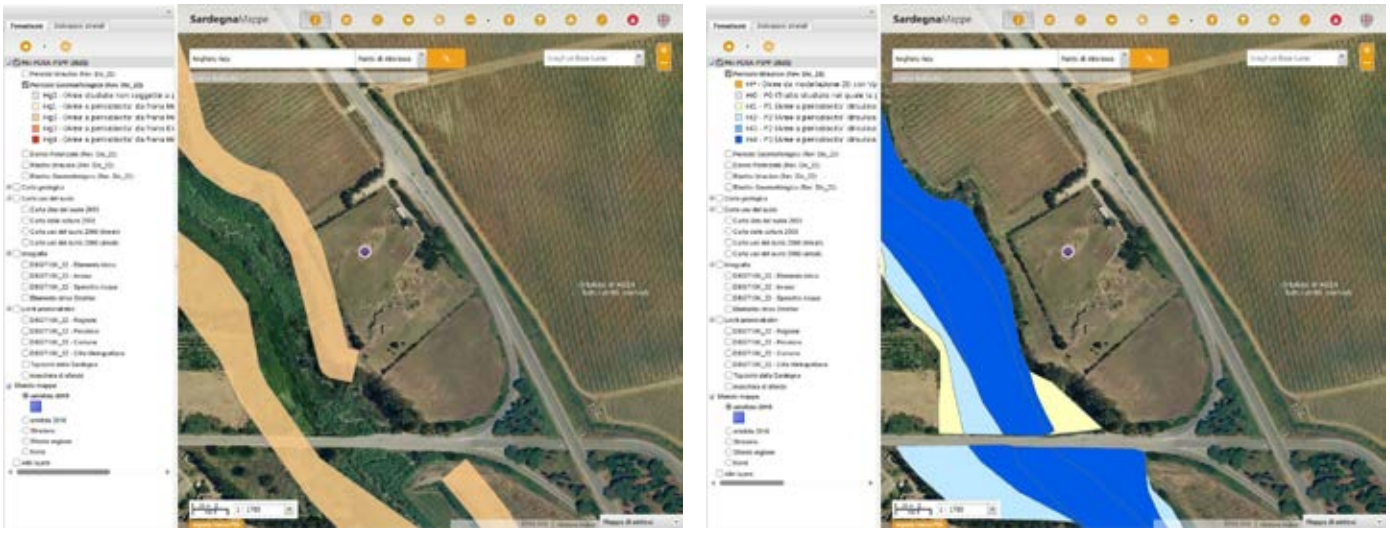
In terms of of landscape values and integrity preservation, no significant obstacles are reported (fig. 8).

Accessibility for conservation

The monumental area is easily accessible by small vehicles and by the personnel in charge of the management of the artifacts, through the SP 42 road, as known as "Strada dei due mari"; the area is also served by a large dirt parking lot.

Conservation operations

Regarding the actions to be im-



figs. 6/7 - Hazard mapping (source: PAI Sardegna).

fig. 8 - The necropolis in its landscape, not affected by any man-made visual disturbance.

plemented for the conservation of the site, regular inspection and monitoring activities are necessary to verify the erosion levels of the stone material and promptly stop its development through spot integration operations, compatible in terms of materials and style. Similarly, periodic controlled cleaning operations of the surfaces in the areas affected by tuffs, biological patinas and weeds must be carried out with particular attention to the the perimeters of the uncovered areas, in order to minimize the effects of rainwater percolation and the potential detachment of portions of stone material, as well as to set up water drain systems to reduce the effects of flooding.

NECROPOLIS OF ANGHELU RUJU
Reference to detailed info-sheets

Degradation reported:

- ☑ Surface decay and weathering
- ☑ Flooding, percolation and runoff events
- ☑ Gaps
- ☐ Structural and/or geotechnical instability and criticality
- ☑ Large infesting plants
- ☐ Degradation of anthropogenic origin from historical or recent use

Suggested operations:

- ☑ Removal/containment of infesting plant
- ☑ Removal of patinas and encrustations
- ☑ Water regulation
- ☐ Consolidations of detached parts
- ☑ Bonding and grouting
- ☑ Integration of gaps/partial reconstructions of missing parts
- ☐ Covers
- ☐ Isolation in a controlled environment
- ☐ Hydrogeological risk mitigation operations

002.
NECROPOLIS OF PUTTU CODINU

Villanova Monteleone

S.S. 292, 07019 Villanova Monteleone SS

FGP9+QH Villanova Monteleone, Sassari Province

The necropolis of Puttu Codinu is a funerary complex located in a hilly environment near the Temo River and its tributary Rio Curos. It extends along a slope on two low limestone outcrops that house a total of nine *domus de janas*, two excavated in the southernmost outcrop (Tombs I and II) and seven in the northernmost one (Tombs III, IV, V, VI, VII, VIII, IX) (fig. 1). All the entrances to the tombs are oriented to the east and southeast, with the tomb developing to the west. They are multi-chamber tombs, except for the two-chamber Tomb V, located at ground level, and the paradigmatic tomb(Tomb VIII), having an entrance about 70 cm from the ground.

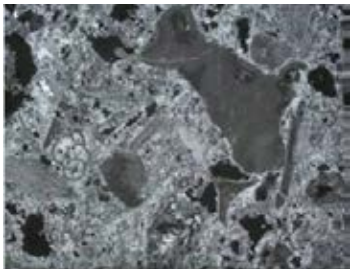
fig. 1 - Limestone outcrop where the *domus de janas were excavated.*

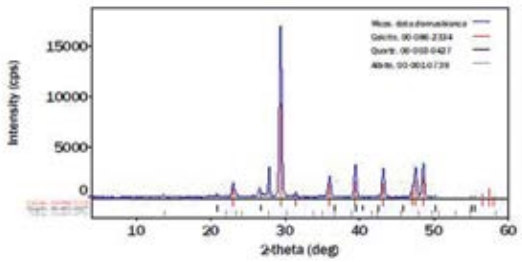
Stone materials and finishings

As for the rocky substrate where the hypogea are dug, the Bonorva geological map (fig. 2) shows two different types of Miocene necropolis, in particular, the Helvetian-Tortonian and the Holocene: the calcareous-sandstone *facies* and the marshy areas on the tabulate areas. The site was dug in the fossiliferous limestone outcrop with a structure ranging from micritic to microsparitic, the different composition and structure of which affect its natural degradation.

The microscopic analysis performed on the sample reveals, as a matter of fact, the intrinsic tex-

fig. 2 - Geological map of north-western Sardinia, folio 193, Bonorva, scale 1:100,000.





figs. 3/4 - Tomb VIII, eastern wall, polarised light microscopy micrograph (2.5X) and X-ray diffractogram.

tural and structural characteristics of the material, characterized by good compactness, low porosity and low friability (figs. 3-4). The slow erosion induced by exogenous phenomena produces an increase in surface roughness that corresponds to a moderate bioreceptivity, i.e. the presence of sediments of a biological nature and incrustations of natural or anthropogenic origin. Overall, the site necropolis is in a good state of preservation. Only two out of nine tombs (Tombs I and IV) have not been fully preserved due to significant erosion.
In general, external stone surfaces, directly exposed to atmospheric agents, are subject to minor degradation (weathering), deriving mainly from the erosive action of wind and water (blowing or running); the latter undoubtedly represents the environmental factor having the greatest impact. The porosity of the surfaces, eroded by the joint action of wind and water, with visible forms of alveolarization, even intense, facilitates the presence of extensive biological coverage by mosses and lichens which, if properly monitored and contained in their proliferation, cannot be considered significant risk factors for the conservation of the artifact. This biological coverage is limited or even absent in correspondence with the protected vertical walls, where the interaction with water is contained thanks to the presence of major protrusions: in those spots, however, erosion is more visible (figs. 5-6).
More generally, weed vegetation, even at the points of greatest proliferation, is limited to herbaceous seedlings (especially ferns) of limited size and impact, both in terms of material and in relation to visual disturbance (fig. 7 and fig. 10). Therefore, it is not a significant problem.
As for the internal surfaces of the funerary environments of the entire necropolis, there are chromatic changes and areas of biological colonization due to the presence of rising humidity and stagnation of percolating and infiltration water. In some tombs, erosion has generated some holes in the ceilings of the chambers, through which the rainwater that flows on the rocky bank easily penetrates. There are also extensive alveolarization erosions (figs. 7-9) and incrustations due to carbon black, linked to periods of reuse as a rural shelter (fig. 12).

The paradigmatic tomb VIII is particularly interesting from compositional, architectural and interior decoration points of view and it is in an excellent state of conservation. It is accessible through a small *dromos* that leads to a quadrangular ceiling-less pavilion (fig. 5). This environment is affected by small stagnations of water and, on the walls, it shows a different degree of biological cover (fig. 10) in relation to the protective action carried out, in some parts, by the residues of the original stone cover. There are also superficial erosion (fig. 11) and stone flaking events.

figs. 5/6 - Differential distribution of biological covers based on the presence of water: Tomb VIII, Tomb IX.

fig. 7/9 - Main types of surface decay and degradation.

Stability and safety

From a static and geotechnical point of view, phenomena similar to the superposition of the layers of material with different grain size and different resistance to erosion that make up the rock mass are observed. Structural and geotechnical stability is not affected and there are currently no hydrogeological risk conditions, as also confirmed by PAI Sardegna (fig. 13).

Landscape preservation

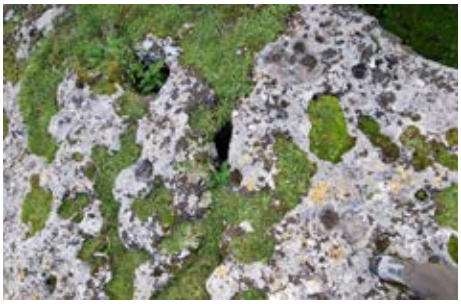
In terms of value preservation and environmental integrity, it should be noted that all enhancement actions introduced specific elements of a reversible, minor and temporary nature, fully compliant with the context where they were made (fig. 14). The site is protected by a local stone fence and wire mesh and is regularly manned and subject to minor routine maintenance, such as grass mowing and cleaning operations.

Accessibility for conservation

The monumental area is easily accessible by vehicles and people in charge of managing the artifacts, a factor that certainly makes it easier to care for and protect it, as well as perform restoration operation which may be necessary in the future.

Conservation operations

In relation to the actions to be implemented for the conservation of the site, it is advisable to monitor the presence of water inside the chambers, depending on the intensity and duration of weather events, with the insertion of shaped mortar grouts, but also considering the possibility of taking action on some erosion holes with a closure or protection system, in order to reduce the direct exposure to rainwater. It is also advisable to regularly remove large infesting vegetation, especially near Tombs XVIII and XIX, by pruning and spraying biocidal products, but not removing root systems mechanically. The controlled cleaning of the internal surfaces is recommended for tombs affected by carbon black incrustations and organic patinas.



figs. 10/12 - Detailed images of the main surface decay events: 10) weeds, mosses and lichens; 11) erosion with pulverization; 12) biological colonization, earthy surface sediments and incrustations from combustion (soot).

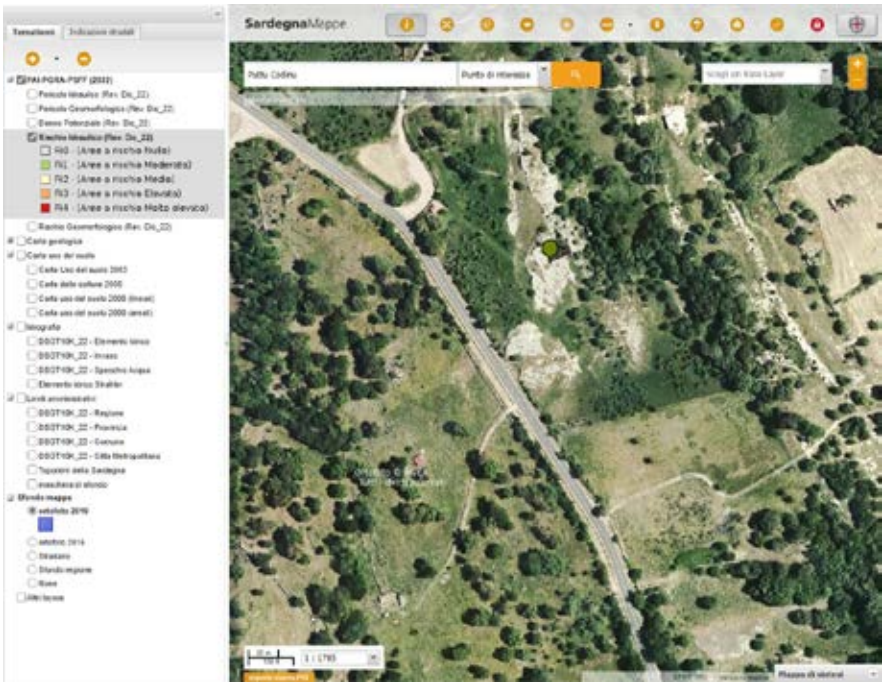


fig. 13 - Hazard mapping (source: PAI Sardegna).

fig. 14 - The necropolis in its landscape, not affected by any man-made visual disturbance.

NECROPOLIS OF PUTTU CODINU
Reference to summary fiches

Degradation reported:

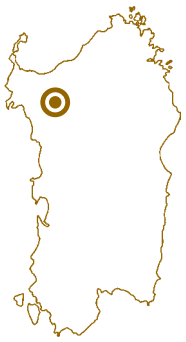
- ☑ Surface decay and weathering
- ☑ Flooding, percolation and runoff events
- ☑ Gaps
- ☑ Structural and/or geotechnical instability and criticality
- ☑ Large infesting plants
- ☐ Degradation of anthropogenic origin from historical or recent use

Suggested operations:

- ☑ Removal/containment of infesting plant
- ☑ Removal of patinas and encrustations
- ☑ Water regulation
- ☐ Consolidations of detached parts
- ☐ Bonding and grouting
- ☑ Integration of gaps/partial reconstructions of missing parts
- ☐ Covers
- ☐ Isolation in a controlled environment
- ☐ Hydrogeological risk mitigation operations

003.
NECROPOLIS OF MONTE SISERI/ S'INCANTU

Putifigari



07040 Putifigari SS

JC4H+HX Putifigari, Sassari Province

The Necropolis of Monte Siseri, to which the Tomb of S'Incantu belongs, is located in north-western Sardinia, in the Municipality of Putifigari (SS), between Alghero and Sassari. The necropolis so far explored consists of three multi-chamber hypogea dug on the top of the ridge of a low hill fully covered by Mediterranean scrub with the exception of archaeological findings and some isolated outcroppings. Tomb I, also known as "S'Incantu" for the beauty of the surfaces painted with magical-religious and architectural motifs, consists of a *dromos*, a pavilion and two rooms (an antechamber and a main chamber), arranged according to a T-shaped layout.

Stone materials and finishings

Overall, the necropolis is in a good state of preservation. In particular, the paradigmatic tomb has been protected since 1990, through the construction of a traditional stone masonry artifact, by the Archaeological Superintendence, using concrete and metal inserts and a double sloping tile roof and wooden flooring, protected by a metal door, which over time has prevented access to both people and animals, avoiding a potential misuse of the archaeological space (fig. 1).
The other two partly collapsed tombs are in a more critical condition, often flooded and covered

fig. 1 - Access to Paradigmatic Tomb I.

fig. 2 - Geological map of north-western Sardinia, folio 192, Alghero, scale 1:100,000

fig. 3 - Examples of minor degradation of interior surfaces in the main chamber of the Tomb of S'Incantu, caused by the presence of moisture and percolating infiltration water.

by infesting vegetation, consisting mainly of shrubs with non-negligible root systems. As for the rock where the hypogeum is dug, the geological map of the Nurra area (fig. 2) indicates a major presence of volcanites, mainly tuffaceous, from little to tightly welded, ideal for the development of several prehistoric communities, because they can be easily excavated with stone picks used by neo-eneolithic stonemasons.

Specifically, volcanites belonging to the pre-Helvetian eruptive formation of Monte San Pietro are found around the Necropolis of Monte Siseri. Tomb 1 was dug in a rock-bed that may be classified as ignimbrite, a pyroclastic rock consisting of small chips, with a medium-high percentage of volcanic glass combined with crystals of endogenous origin, mainly feldspars and biotite, and stone fragments.
The paradigmatic monument is substantially intact. On the outside, the surface of the bedrock where it was dug has no vegetation, featuring some ancient ditches to facilitate the flow of water and protect the entrance. Deterioration is due to the presence of infiltration, percolation and condensation water, given the high humidity rate of the chamber. This environmental condition has led to the proliferation of biological colonizations and saline efflorescences in some parts of the main chamber (figs. 3-4). In the *dromos*, near the entrance and in the pillars, minor alveolarization and flaking can be seen, which, however, do not affect the preservation of the artifact in any way (figs. 5-6).
The isolation of the interior space,

fig. 4 - Detail of the double sloping roof.

figs. 5/6 - Minor flaking detail.

secured by a superimposed structure, requires constant monitoring of the interior parameters, in order to avoid the triggering of micro-climate processes which might be harmful to the conservation of painted surfaces.

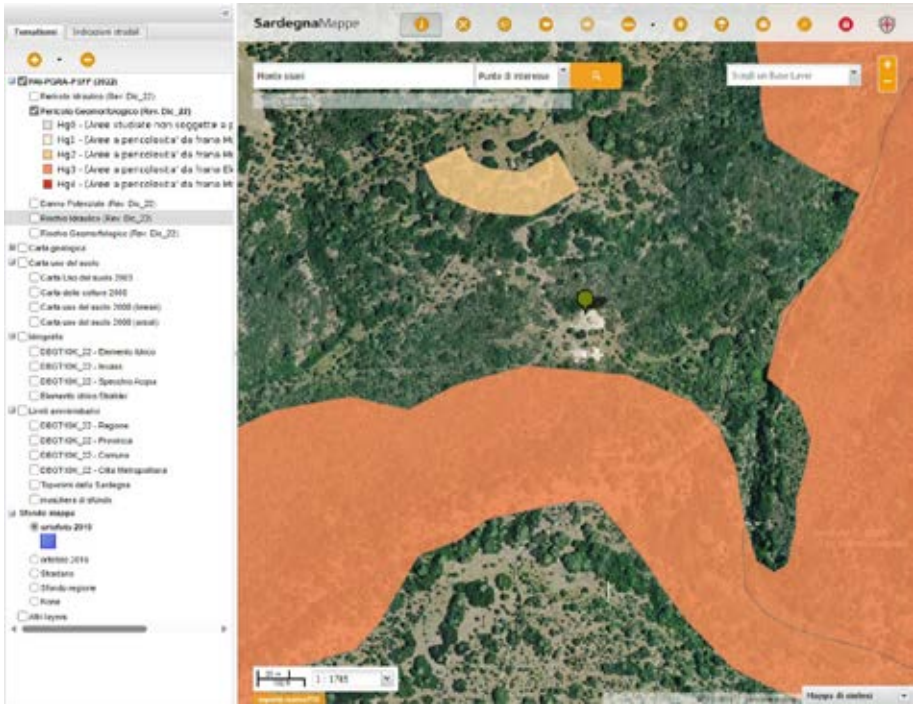


fig. 7 - Geomorphological hazard mapping (source: PAI Sardegna)

Stability and safety

Today, Tomb I is extraordinarily preserved and there are no passing and potentially damaging cracks. However, the artifact built to protect the tomb rests directly on the original archaeological structures and, especially for the reinforced concrete parts above the door, a periodic check is appropriate to prevent dangerous decays of static loads resulting from oxidation and corrosion.

The conditions of the other two tombs looks more problematic.

There are active geomorphological instability mechanisms in the necropolis; however, PAI Sardegna identifies two areas having medium (Hg2) and high (Hg3) geomorphological hazard in the vicinity of the tombs due to collapse, overturning and the sliding of blocks (fig. 7).

fig. 8 - Building built to protect and isolate Tomb II.

Landscape preservation

In terms of of landscape values and integrity preservation, no significant obstacles are reported. The only elements partially in contrast with the protection of the monument and its landscape concern some architectural aspects of the small building built to protect and isolate the paradigmatic tomb (fig. 8), for the redevelopment of which the necessary funding has already been allocated (SABAP Funds and MIC Programme funds for an amount of €140,000).

Accessibility for conservation

The monumental area may be accessed, albeit not always easily, by small vehicles and the personnel responsible for managing the artifacts. The renovation of the area will further improve this aspect, in order to facilitate maintenance and storage, as well as any restoration work that may be necessary.

Conservation operations

In relation to the actions to be taken for the conservation of the site, planning the removal of the infesting vegetation that affects the two tombs not yet restored is suggested, providing for manual pruning operations and a rainwater removal system, in order to reduce the effect of flooding.

On the other hand, the situation of the paradigmatic tomb, 'S'Incantu', is quite different: it is important to monitor the micro-climate and, in particular, the interior humidity rate, due to the presence of water in the chambers, seeping above all from the cracks in the roof, and responsible for minor-to-major runoff, depending on the intensity and duration of rain. These discontinuities must be properly compensated and sealed.

The progression of erosion must also be constantly monitored, providing for bonding and grouting the sports mostly affected by the natural spalling of the stone. On surfaces affected by sediments and patinas, controlled cleaning can be carried out. Similar measures for monitoring erosion processes and controlled surface cleaning could also be taken into account in the rest of the hypogea of the necropolis.

NECROPOLIS OF MONTE SISERI
Reference to detailed info-sheets

Degradation reported:

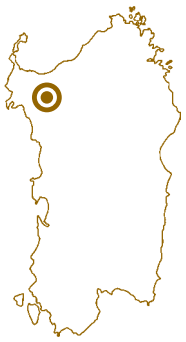
- ☑ Surface decay and weathering
- ☑ Flooding, percolation and runoff events
- ☑ Gaps
- ☐ Structural and/or geotechnical instability and criticality
- ☑ Large infesting plants
- ☑ Degradation of anthropogenic origin from historical or recent use

Suggested operations:

- ☑ Removal/containment of infesting plant
- ☑ Removal of patinas and encrustations
- ☑ Water regulation
- ☐ Consolidations of detached parts
- ☑ Bonding and grouting
- ☑ Integration of gaps/partial reconstructions of missing parts
- ☐ Covers
- ☑ Isolation in a controlled environment
- ☐ Hydrogeological risk mitigation operations

004.
ARCHAEOLOGICAL COMPLEX OF MONTE BARANTA

Olmedo



Strada Comunale Olmedo-Uri, 07040 Olmedo SS

J9JW+JW Olmedo, Sassari Province

The megalithic complex of Monte Baranta is located in north-western Sardinia, in the Nurra territory, in the Su Casteddu area, near the town of Olmedo (SS). It rises on the edge of the Padru Salari plateau on the southeastern border of the volcanic rock plateau named after it. The site is characterized by the construction of defensive structures featuring cyclopean walls, made on a relatively barren clearing, some portions of which sharply protrude on the valley below. The most prominent parts of the complex are the tower-fence (fig. 1), the wall, the six-hut village, the worship megalithic circle located outside the wall and consisting of eighty orthostatic slabs and two menhirs.

fig. 1 - Tower-fence, detail of the tinseled entrance facing west.

Stone materials and finishings

As for the rock where the complex rests, the geological map of Sassari shows the characteristics of the outcropping local geology, featuring a major presence of reddish-brown pyroclastics, vulcanites, mostly little-to-much welded and tuffaceous (fig. 2). The same *in situ* rock was used for the construction of the complex.

Overall, the archaeological complex is in a good state of preservation, also as a result of previous restoration work. Stone surfaces show low-severity degradation, mainly due to weathering, such as chro-

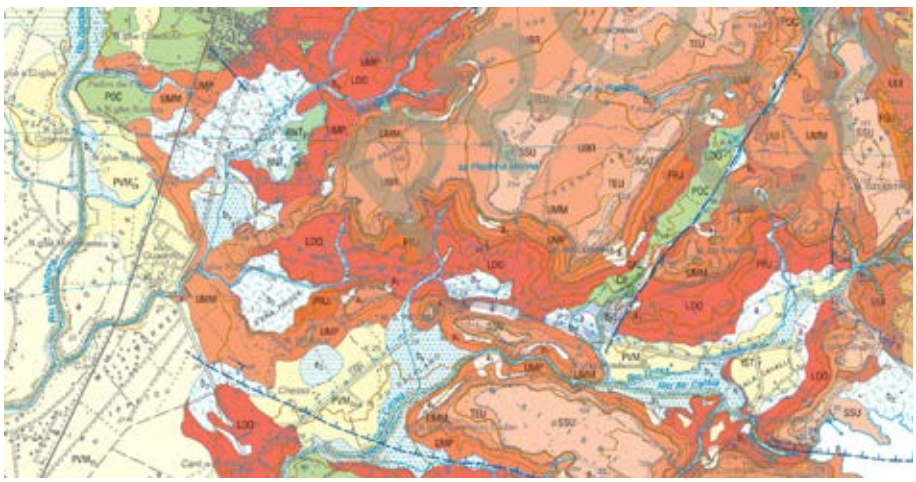


fig. 2 - Geological map of north-western Sardinia, folio 459, Sassari, scale 1:50,000.

fig. 3 - Examples of the main surface modifications and decay.

fig. 4 - Traces of former village huts on the perimeter, covered by wild vegetation.

fig. 5/8 - Wall and tower-fence ashlars affected by cracking and spalling. Note the metal hoops used during the monitoring phase.

matic changes, patinas, surface sediments and limited erosion (fig. 3). On the other hand, the biological cover including moss and lichens is extensive, while the presence of infestation vegetation is mainly found between the remains and the rock-bed, and in the area where the huts rest (fig. 4). They are herbaceous plants having no root system that might affect the conservation of the archaeological artifact, but still capable of preventing the analysis of archaeological remains in the event of an excessive growth of the green cover.

Stability and safety

From the static point of view, a minor disruption of wall structures is

worth mentioning. In particular, some ashlars locally show cracks and static characteristics which require consolidation work. Some stone blocks of the tower-fence are affected by spalling and exfoliation which are not detrimental to the integrity of the monument (figs. 5-8). From a geological point of view, it is worth mentioning that, along the southern slope of the plateau, part of the Oligo-Miocene volcanic layers characterizing the area outcrops: from the pyroclastites of Monte Baranta, on top of the plateau, to the pyroclastites of Monte Miale Ispina, where the main structures of the complex rest, and, following the slope downstream, those of Monte San Pietro, Punta Ruja and Olmedo. Because of this set-up, the site includes a very high geomorphological hazard in the proximity of the cliff, due to collapse and overturning mechanisms related to the geology of the outcrop (fig. 2). As the PAI zoning shows (fig. 9), the geomorphological hazard level of the cliff is very high (Hg4) in the upper part of the slope, and high (Hg3) in the middle lower part.

Landscape preservation

In terms of of landscape values and integrity preservation, no significant obstacles are reported.

Accessibility for conservation

The monumental area may be accessed by small vehicles and the personnel responsible for managing the artifacts.

Conservation operations

Regarding the actions to be put in place for the preservation of the site, in addition to the above-mentioned limited and punctual consolidation of the built structures, archaeological excavations should be continued. With reference to the worship area and the village, given the small size of the remains, it is important to ensure regular mowing to keep the archaeological structures clearly recognizable.
With regard to the wall, small and medium-sized shrubs growing at the foot of the remains, especially inside the fence, and those near the main gateway should be removed. The protection layer of the ruin wall sections will also have to be monitored and maintained, in order to reduce the impact of wall leaching and prevent a potential collapse resulting from the loss of wedges and other stabilizing elements that may occur as a result of the increasingly frequent extreme weather conditions. Similarly, stone erosion and fracturing will have to be monitored, taking action in the spots of greatest intensity by bonding and sealing.

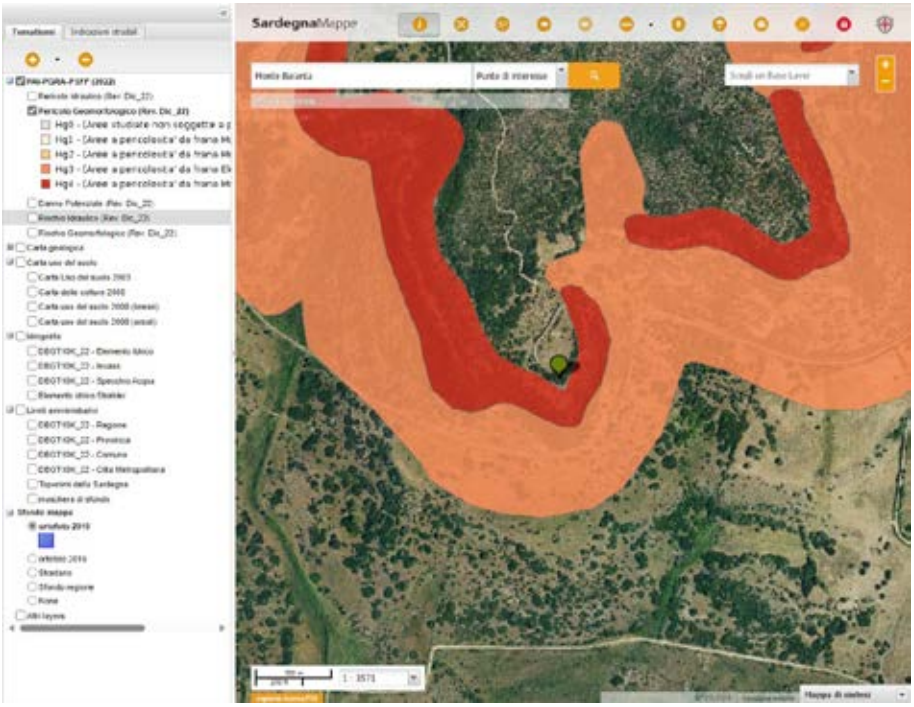


fig. 9 - Geomorphological hazard mapping (source: PAI Sardegna).

MONTE BARANTA
Reference to summary fiches

Degradation reported:

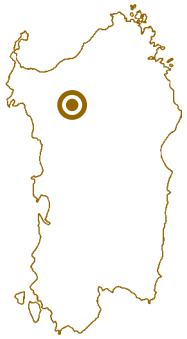
- ☑ Surface decay and weathering
- ☐ Flooding, percolation and runoff events
- ☐ Gaps
- ☑ Structural and/or geotechnical instability and criticality
- ☑ Large infesting plants
- ☑ Degradation of anthropogenic origin from historical or recent use

Suggested operations:

- ☑ Removal/containment of infesting plant
- ☐ Removal of patinas and encrustations
- ☐ Water regulation
- ☑ Consolidations of detached parts
- ☑ Bonding and grouting
- ☐ Integration of gaps/partial reconstructions of missing parts
- ☐ Covers
- ☐ Isolation in a controlled environment
- ☑ Hydrogeological risk mitigation operations

005.
NECROPOLIS OF MESU 'E MONTES

Ossi



07045 Ossi SS

JJH9+XC Ossi, Sassari Provence

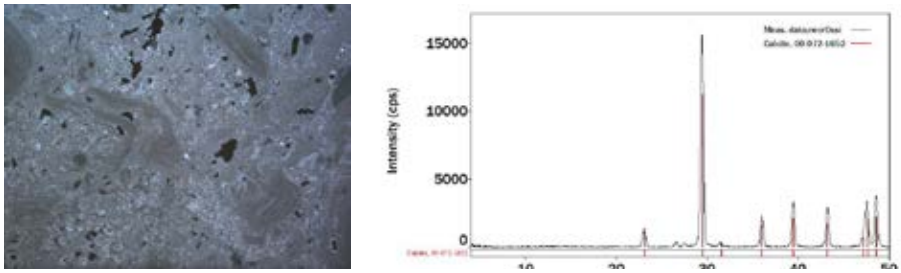
The Necropolis of Mesu 'e Montes is located in north-western Sardinia, in the Logudoro territory, a short distance from the town of Ossi (SS), along the southeastern ridge of Monte Mamas. The necropolis comprises nineteen hypogeal multi-chamber tombs, two of which (Tomb III and Tomb XVI) have rock-cut façades, the entrances of which are directly connected to the narrow valley separating Monte Mamas from the overlooking Monte Mannu.
Architectural and decorative motifs of exceptional value are found particularly in Tombs I and II. Tomb II, in particular, being located in the western section of the necropolis, consists of twelve chambers and is characterized by an exceptional variety of carved figurative motifs (fig. 1).

fig. 1 - Entrance of Tomb I.

fig. 2 - Geological map of north-western Sardinia, folio 459, Sassari, scale 1:50,000.

Stone materials and finishings

Overall, the necropolis is in a fairly good state of preservation. As for the rock where the hypogea are dug, the geological map of Sassari classifies it in the Miocene sedimentary layers of the Sassari area (fig. 2). Indeed, microscopic analysis shows the inherent textural and structural characteristics of the limestone rock, including different *mudtsone* to *wackstone* structures and the presence of fossils (figs. 3-4). The different composition and structure affects the natural degradation level.
It is, in fact, a soft material, characterized by surface flakiness and particularly subject to weathering-induced decays. In particular, erosion processes of alveolized surfaces are reported, with an increase in the biorectivity of the material, that is, the presence of biological sediments and encrustations of natural or anthropogenic origin.



figs. 3/4 - Polarized light microscopy photomicrograph (2.5X) and X-ray diffractogram showing calcite crystal reflection. The nature of the micritic limestone , that hardly flakes, is clear.

figs. 5/6 - Examples of types of decay outside and inside Tomb II.

fig. 7 - Presence of traces of carbon black in some tombs of the necropolis, attesting to their improper use over time.

Limited to a few graves, major erosion is also reported, with a deep impact on the rock bench (fig. 7).

The paradigmatic monument (Tomb II) suffers from water infiltration that favors the growth of extensive biological colonizations, salt sediments and exfoliation on the stone surfaces, with an uneven distribution on walls and ceilings that could affect the conservation of decorative elements, possibly in the long term.

Another event resulting in widespread degradation within the hypogeum is erosion with disintegration, with some gaps also affecting jutting architectural elements (lesenes). On the outside, alveolarization does not affect the preservation of the artifact.

There are also limited signs of anthropogenic degradation, mainly connected to past raids by grave robbers, but also to the scraping necessary to access the chambers, especially in the lower parts of the rooms, that have become concave as a result of wear (figs. 5-6). Unlike other tombs on the same site (fig. 7), there are no traces of misuse or carbon black.

Stability and safety

Overall, from a structural point of view, the paradigmatic tomb(Tomb II) is intact and in a good state of conservation. However, the environmental conditions described above has generated cracks in the other tombs of the necropolis, increased the amount of infesting vegetation, that is currently limited and has a minor impact on the static safety of the site. Cracks are mostly found in the antechamber, in the main chamber and in two other secondary rooms. The process appears to have a short-term impact, and the design and implementation of a monitoring system to evaluate the collapse observed is urgent, before appropriate risk mitigation actions can be developed.

The rocky slope that accommodates the necropolis is subject to an overall geomorphological instability, resulting in detachment,

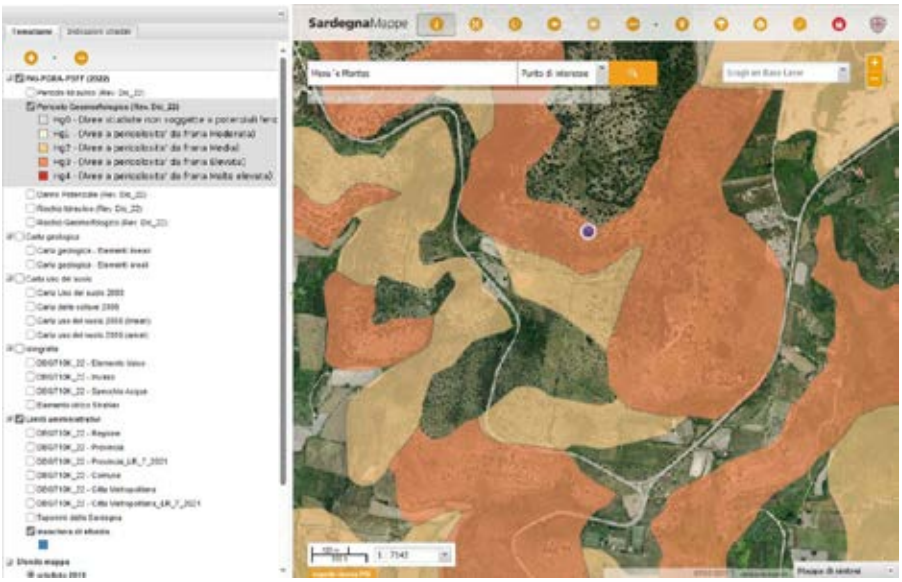


fig. 8 - Geomorphological hazard mapping (source: PAI Sardegna).

fig. 9 - Part of the access route to the necropolis area.

collapse and even recent slippage. This condition can be attributed to the layering of rocks associated with water-induced erosion. This condition is also reported by PAI Sardegna, according to which the area is exposed to a high hazard levels (Hg3) due to the geomorphological risk in the necropolis area (fig. 8).

Landscape preservation

In terms of value preservation and landscape integrity, the entire necropolis is surrounded by a natural environment, unaffected by anthropogenic factors, except for the limited impact of built structures.

Accessibility for conservation

The monumental area may not be accessed directly by maintenance vehicles, but the personnel in charge of the monitoring and maintenance of the site may reach the area on foot (fig. 9).

Conservation operations

In relation to the actions to be implemented for the conservation of the site, particularly regarding underground environments and decorated surfaces, it is suggested to consistently reduce higher-order invasive vegetation through pruning, excluding the mechanical extraction of root systems. This includes monitoring fissure patterns and erosive phenomena, regulating water flow, especially in connection with potential events of exceptional intensity and duration related to ongoing climate changes. Additionally, erosion phenomena control, controlled cleaning of surfaces in areas currently affected by deposits and patinas, and sealing points of greater intensity of cracks and detachments are recommended.
For the conservation and promotion of the site, €800,000 have been allocated (a fund for territorial planning managed by Unione dei Comuni dell'Anglona e della Bassa Valle del Coghinas).

NECROPOLIS OF MESU 'E MONTES
Reference to detailed info-sheets

Degradation reported:

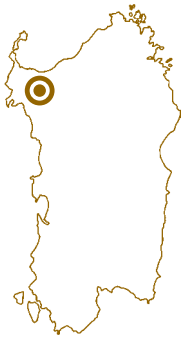
- ☑ Surface decay and weathering
- ☑ Flooding, percolation and runoff events
- ☐ Gaps
- ☑ Structural and/or geotechnical instability and criticality
- ☑ Large infesting plants
- ☐ Degradation of anthropogenic origin from historical or recent use

Suggested operations:

- ☑ Removal/containment of infesting plant
- ☑ Removal of patinas and encrustations
- ☑ Water regulation
- ☑ Consolidations of detached parts
- ☑ Bonding and grouting
- ☐ Integration of gaps/partial reconstructions of missing parts
- ☐ Covers
- ☐ Isolation in a controlled environment
- ☐ Hydrogeological risk mitigation operations

006.
SANCTUARY OF MONTE D'ACCODDI

Sassari



Strada Statale 131 - Km 222,200 - 07100 SS

QCRX+7H Sassari, Sassari Province

The archaeological complex of Monte d'Accoddi is located in north-western Sardinia in the Municipality of Sassari in an almost flat environment, near Rio di Ottava.
The sanctuary, in the current visible form, is divided into a truncated step pyramid platform, built using large rough blocks, accessible through a long ramp built using the same construction technique. In its surroundings, other artifacts can be seen, the most interesting of which may be associated with worship, including a dolmen, three menhirs, and other elements interpreted as sacrificial altars (fig. 1).

The site is complemented by the huts of the village-sanctuary. Their foundations are made of pebbles, serving as a base for the walls made of perishable material (wood, vases, unfired bricks).

Stone materials and finishings

Based on the analysis of the reference geological map (fig. 2), the complex seems to be built using the same rocks sued for its foundations. The complex rests on sedimentary rocks of the Mores ridge consisting of calcarenite rocks, sandstones and conglomerates classified as part of the Miocene rock layers of the Sassari area.
Overall, the site is in an excellent state of preservation, also due to the restoration work carried out during several phases, aimed at consolidating the excavated structures. In particular, the latest works have removed the cement additions and replaced the structures added

fig. 1 - General view of the site.

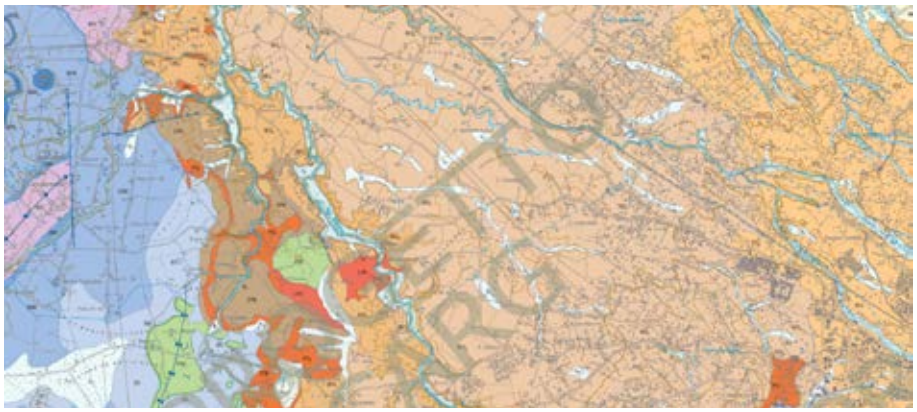


fig. 2 - Geological map of Sardinia, folio 459, Sassari, scale 1:50,000.

figs. 3/4 - Example of the main ongoing decays and bad conditions.

fig. 5 - Erosion on menhir surfaces.

in the 1950s, restoring the artifact to its full and original state.
With regard to stone surfaces, minor chromatic change, surface sediments and patinas, and erosion are reported (figs. 3, 4, 5).

Stability and safety

Regarding its static aspects, fragmentation is limited to some boulders included in the wall, highlighted by the presence of infesting vegetation. However, structural and geotechnical stability does not currently appear to be affected. Past consolidation operations are also easily recognisable (fig. 6).
According to PAI Sardegna, the area has a high hydraulic risk level at the riverbed of Riu Ottava, which however does not directly involve the site (fig. 7).

Landscape preservation

In terms of value preservation and landscape integrity, although the area is affected by human presence, the complex does not show any particular critical issues. The elements introduced for site usability purposes did not generate negative

fig. 6 - Consolidation of the embankment retaining walls by means of a metal mesh.

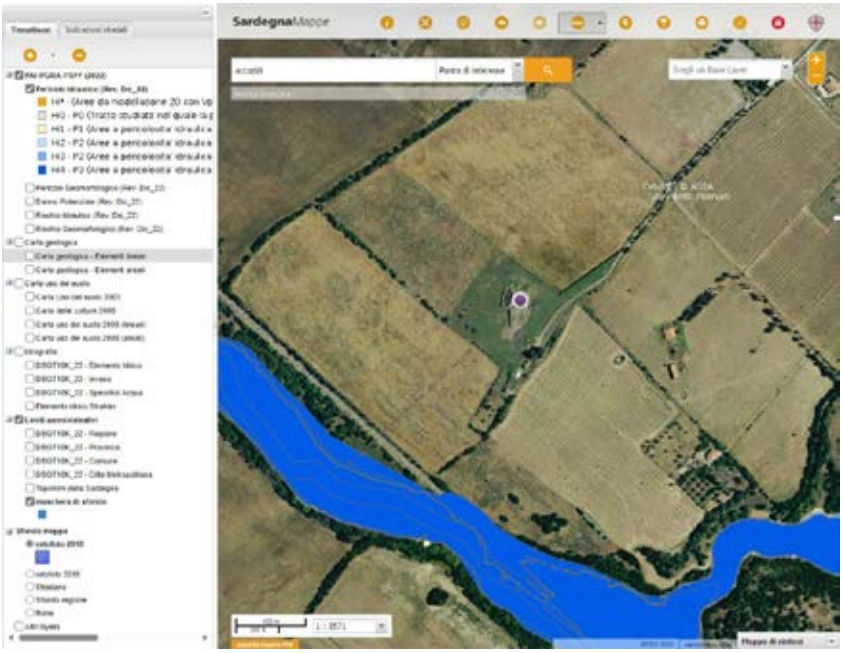


fig. 7 - Hydraulic hazard mapping (source: PAI Sardegna).

interferences on the perception of the archaeological environment.

Accessibility for conservation

The fenced and guarded monumental area may be accessed by small vehicles and the personnel responsible for managing the artifacts.

Conservation operations

Regarding the actions to be taken for the conservation of the site and, in particular, its buildings, it is advisable to provide limited and timely consolidation operations to tackle the fractures of some of the masonry elements.
The plan the control of the infesting vegetation, by both mowing of spontaneous weeds, by pruning and by spraying biocidal products on shrubby seedlings embedded in the joints of the walls, but not removing root systems mechanically. The protection layer of the ruin wall sections will also have to be monitored, to reduce the impact of wall leaching and prevent a potential collapse resulting from the loss of wedges and stabilizing elements that may occur as a result of the frequent and extreme weather conditions.
In addition, the controlled cleaning of surfaces in areas currently affected by sediments and patinas and the sealing of spots affected by the most intense natural stone flaking are recommended.

SANCTUARY OF MONTE D'ACCODDI
Reference to detailed info-sheets

Degradation reported:

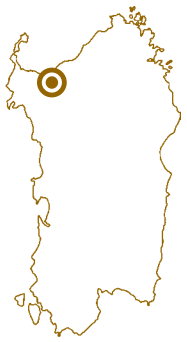
- ☑ Surface decay and weathering
- ☐ Flooding, percolation and runoff events
- ☐ Gaps
- ☐ Structural and/or geotechnical instability and criticality
- ☑ Large infesting plants
- ☐ Degradation of anthropogenic origin from historical or recent use

Suggested operations:

- ☑ Removal/containment of infesting plant
- ☑ Removal of patinas and encrustations
- ☐ Water regulation
- ☑ Consolidations of detached parts
- ☐ Bonding and grouting
- ☐ Integration of gaps/partial reconstructions of missing parts
- ☐ Covers
- ☐ Isolation in a controlled environment
- ☐ Hydrogeological risk mitigation operations

007.
NECROPOLIS OF SU CRUCIFISSU MANNU

Porto Torres



SS 131 Carlo Felice, 07046 Porto Torres SS

RC6V+4P Porto Torres, Sassari Province

The Necropolis of Su Crucifissu Mannu is located on a slope of sedimentary rocks outcropping in northwestern Sardinia, near the town of Porto Torres (SS). To date, twenty-two tombs have been found, all of which were multi-chamber, accessed by a vertical pit or a descending *dromos*. On the rocky surface, there are deep grooves carved by the passage of chariots in Roman and medieval times. Tomb VIII, in particular, that is located in the southern sector of the necropolis, is divided into twelve rooms, mostly arranged according to a centripetal layout with respect to a central chamber (fig. 1).

fig. 1 - View of the ceiling-less Tomb VIII.

Stone materials and finishings

The substrate where the hypogea are dug is a limestone rock that is part to the Oligo-Miocenic sedimentary layer of the Lugudoro-Sassarese area, as shown by the geological map of Sardinia (fig. 2). In particular, the limestone outcrop of this site is a *lithofacies* of the Mores ridge, described as calcarenites, fossil bioclastic limestones, nodular limestones with a terrigenous component, also consisting of gastropoda (Turritellidae), ostreida and echinoids (Scutella, Amphibole). It is a soft rock easy to be worked, but also erodible. Exogenous agents, responsible for weathering, can have a major degrading impact on the appearance and structural robustness

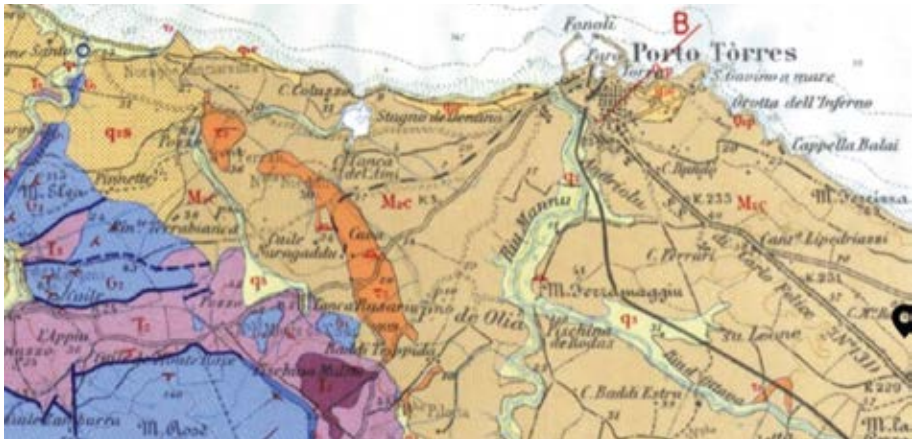


fig. 2 - Geological map of north-western Sardinia, folio 179, Porto Torres, scale 1:100,000.

of this material: rain, temperature, wind and air pollutants, acting in combination with each other, contribute to the decay and irreversible deterioration of this material with the formation, among other things, of an insoluble, reddish earthy residue, also clearly visible at the site.

Although the state of conservation can be considered overall fairly good, degradation is visible and should be monitored. In addition to surface erosion, with even deep levels already affected (fig. 3), the most relevant factor affecting it is undoubtedly the infiltration of rainwater that leaks and stagnates, thus facilitating the proliferation of bacterial colonies and infesting vegetation, and the removal of eroded surfaces, which are washed away by rain. Surfaces directly exposed to weathering are subject to decohesion, detachments and gaps. In roofless chambers, patinas are concentrated in the water runoff spots and in their lower portions, affected by capillary rise and stagnation. The chamber interior walls which are still protected by ceilings, on the other hand, have mainly sediments, biological patinas and encrustations most likely due to carbon black.

fig. 3 - Examples of ongoing negative conditions outside the tomb.

fig. 4 - Examples of ongoing negative conditions on interior tomb walls.

Stability and safety

In the past, the nature of the material already facilitated brittleness and collapse, with the loss of ceilings and major structural erosion. As a matter of fact, erosion appears particularly emphasized, resulting in cracks and thinner structural partitions, which in the long run can affect the static safety of the complex (fig. 5). Currently, cracks do not seem to affect structural safety: they are the result of the layering of outcrop materials having different resistance levels to erosion; although at the moment there is no geomorphological hazard, localized interior collapses (sinkhole). Although the area is flat, PAI Sardegna reports an average geomorphological hazard level (Hg2) for the entire necropolis (fig. 6).

Landscape preservation

In terms of value preservation and landscape integrity, the area is affected by human activities, including low-impact farming and industrial facilities. The limited height of the buildings, the presence of thick tall vegetation, and the distance of the necropolis from recent buildings, result in a fairly good visual and landscape mitigation. Therefore, there is no particularly critical issue.

fig. 5 - Erosion of Tomb VIII.

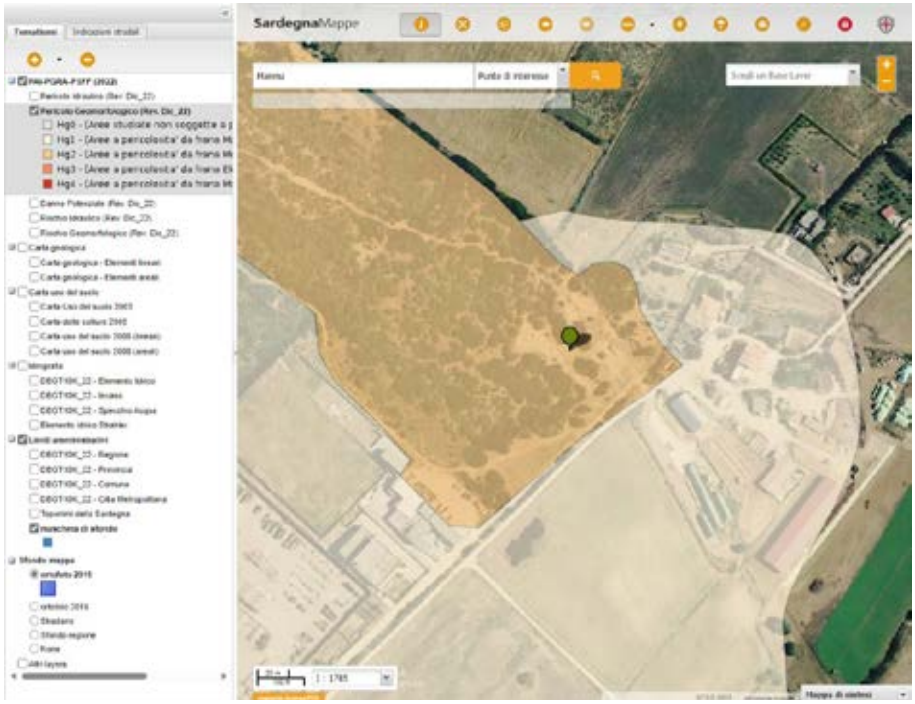


fig. 6 - Geomorphological hazard mapping (source: PAI Sardegna).

Accessibility for conservation

The site is fully accessible by vehicles and people, thus having a positive impact on the maintenance of the area and facilitating future restoration works on the buildings. The area is guarded, the grass is cut regularly and the tombs are easily accessible, although one can enter on all fours due to the small diameter of the entrance and the height of the ceilings.

Conservation operations

Regarding the actions to be taken for the conservation of the site and, in particular, for the conservation of the paradigmatic tomb, structural erosion levels should be monitored, with some specific integration in those spots which are mostly affected, especially where opening a new entrance may result in rainwater leaking inside the chambers. In order to avoid leaks and stagnation, the perimeters of collapsed roofing elements should be maintained, using, for instance, the mortar shaping technique to facilitate the removal of rainwater. In general, the controlled cleaning of the surfaces and the addition of grouting and bonding in the areas affected by detachments and cracks should be planned.

SANCTUARY OF MONTE D'ACCODDI
Reference to detailed info-sheets

Degradation reported:

- ☑ Surface decay and weathering
- ☑ Flooding, percolation and runoff events
- ☑ Gaps
- ☑ Structural and/or geotechnical instability and criticality
- ☐ Large infesting plants
- ☑ Degradation of anthropogenic origin from historical or recent use

Suggested operations:

- ☐ Removal/containment of infesting plant
- ☑ Removal of patinas and encrustations
- ☑ Water regulation
- ☑ Consolidations of detached parts
- ☐ Bonding and grouting
- ☑ Integration of gaps/partial reconstructions of missing parts
- ☑ Covers
- ☐ Isolation in a controlled environment
- ☐ Hydrogeological risk mitigation operations

008.
DOMUS DE JANAS OF ORTO DEL BENEFICIO PARROCCHIALE

Sennori

Via Brigata Sassari, 4, 07036 Sennori SS

QHQV+HR Sennori, Sassari Province

The *Domus de Janas* of Orto del Beneficio Parrocchiale is located within the Old Town of Sennori (SS), and it consists of two multi-chamber tombs, first distinct and then connected to each other, dug at the foot of a limestone wall, including a total of eleven rooms (fig. 1). A distinctive element of the sepulchral complex is its connection with the historical settlement. Incorporated within the parish garden of the Church of San Basilio, the retaining walls of the embankments and the foundations of the village buildings rest on the rocky wall where the hypogea are located.

fig. 1 - General view of the Tombs

Stone materials and finishings

As the geological map of Sardinia (fig. 2) shows, the rock where the hypogea are excavated consists of marl, sandstone marl and marl-based limestone originally from the Borutta outcrop. The area where the necropolis is located was used in the past as a quarry to source construction materials and this activity is now clearly visible on the cliff morphology where the two tombs rest.

Overall, the site necropolis is in a good state of preservation. The ongoing negative conditions mainly concern the biological coverage of the interior surfaces, that is not evenly distributed on all walls, but only on the portions affected by direct natural light. As a result of the exposure and the presence of the buildings, light penetrates throughout the day, flooding only some walls and ceilings or part of them, thus triggering photosyn-

fig. 2 - Geological map of Sardinia, folio 180, Sassari, scale 1:100,000.

thesis (fig. 3). Inside the tombs, the percolation and stagnation of rainwater is visible, resulting in chromatic stone decay.

Widespread erosion is reported in some environments, including alveolarization, passing cracks and the potential detachment of materials (fig. 4), as well as the remains of faded vandalism.
Including on the outside, the rock-bed features diffused cracks, with limited material detachments. The intrusion of weeds at the foot of the embankment retaining wall do not interfere with the state of conservation of the monument (fig. 5). On the other hand, noticeably the condition of the embankment containment walls, which show significant ongoing erosion, especially on specific spots of rainwater runoff (fig. 6).

fig. 3 - Interior view of the biological colonization affecting the bucrania.

Stability and safety

The site does not show visible traces of ongoing geomorphological instability, however, PAI Sardegna reports that the necropolis area has a high-risk level (Hg3). In addition, the necropolis is located near a watershed that is regarded as having a high hydraulic risk level (figs. 7-8).

Landscape preservation

In terms of value preservation and landscape integrity, the site has acquired new landscape value over time, both in its relationship with the traditional buildings found in Sennori and with the 'urban garden' dimension connected to the presence of the religious community. However, some transformations of the building facades of the building units directly overlooking the area show characteristics partially inconsistent with the traditional local architecture, highlighted by the use of post-industrial materials, such as concrete block for the walls or aluminium for the windows. Therefore, both restoration and landscape redevelopment would be recommended (fig. 9).

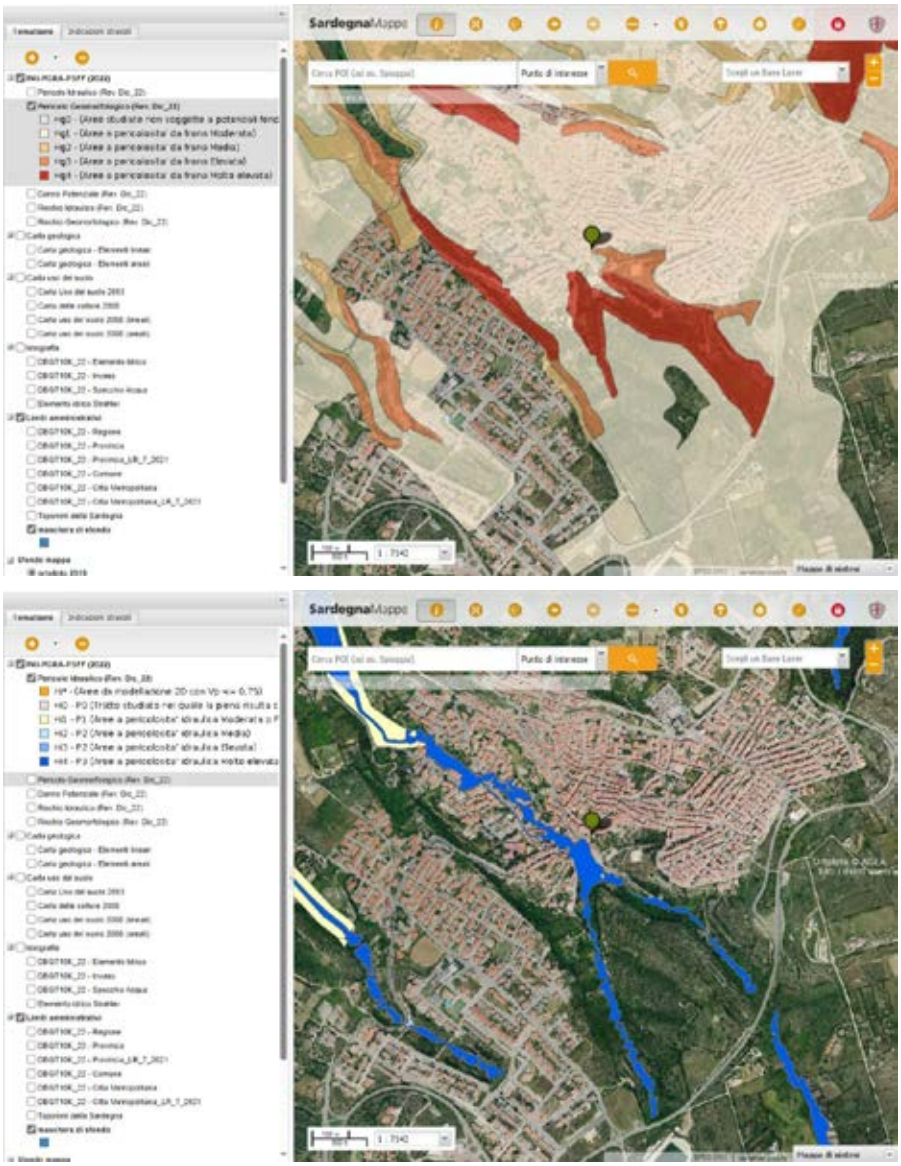
Accessibility for conservation

The monumental area is easily accessible by vehicles and personnel responsible for the maintenance of

fig. 4 - Erosion including the pulverization of stone surfaces, seen from inside the *domus de janas*. Also note the sediments and patinas affecting the ceilings.

fig. 5 - Rock-bed, cracking and spalling and the patinas affecting the ceilings.

fig. 6 - Erosion of the wall facing the embankment that overlooks the area of the Tombs.



figs. 7/8 - Hydraulic geomorphological hazard mapping (source: PAI Sardegna).

fig. 9 - Detail of the urban landscape characterizing the site and the numerous chronological layers, from prehistory to the modern age.

the area or any restoration work that may be necessary in the future.

Conservation operations

Regarding the actions to be taken for the conservation of the site, governing and monitoring the modifications of private properties facing the rocky ridge over time is recommended. The embankment containment walls need careful monitoring and localised consolidation works.
Regarding the conservation of the paradigmatic tomb, monitoring the presence of water inside the chambers is recommended, depending on the intensity and duration of rain, also implementing actions to reduce direct sunlight, in order to protect the decorated and undecorated surfaces from biological proliferation. Similarly, it is important to monitor erosion and take action by integrating and sealing the spots where natural stone disintegration is greater. A controlled cleaning of the surfaces in the areas currently affected by sediments and patinas and the compensation of the cracks currently responsible for infiltration and runoff are recommended.

ORTO DEL BENEFICIO PARROCCHIALE
Reference to summary fiches

Degradation reported:

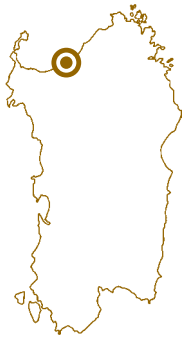
- ☑ Surface decay and weathering
- ☑ Flooding, percolation and runoff events
- ☐ Gaps
- ☑ Structural and/or geotechnical instability and criticality
- ☐ Large infesting plants
- ☑ Degradation of anthropogenic origin from historical or recent use

Suggested operations:

- ☐ Removal/containment of infesting plant
- ☑ Removal of patinas and encrustations
- ☑ Water regulation
- ☑ Consolidations of detached parts
- ☐ Bonding and grouting
- ☐ Integration of gaps/partial reconstructions of missing parts
- ☐ Covers
- ☐ Isolation in a controlled environment
- ☑ Hydrogeological risk mitigation operations

009.
ROCCIA DELL'ELEFANTE

Castelsardo



Strada Statale 134 Km 19,300, 07031 Castelsardo SS

VPQW+VF Castelsardo, Sassari Province

Roccia dell'Elefante, also known as the Necropolis of Sa Pedra Pertunta, is located in the north-western area of Sardinia, in the valley of Rio Cuggiani, a vast valley isolated by ridges and occupied by ancient marine sediments, a few kilometres from the town of Castelsardo (SS). The monument consists of an imposing erratic boulder (hulk) located halfway up the northern slope of Monte Lu Castellacciu, possibly being the result of a collapse of a rock that detached from the mountain peak and rolled down to its current position by gravity. Two overlapping multi-cellular burials were excavated in the boulder: the one on top (Tomb II, the most ancient one) shows significant damage that is now viewed in a historical perspective. Tomb I, excavated in the lower portion of the boulder and recognized as an example for this site, is divided into four rooms and features interesting decorative motifs, including horn-shaped elements and architectural references (fig. 1).

fig. 1 - General view of the monument and the dirt path adjacent to the highway in the foreground.

fig. 2 - Geological map of Sardinia, folio 180, Sassari, scale 1:100,000.

Stone materials and finishings

As shown by the Geological Map of Sardinia, the Elephant Rock originated in the Osilo-Castelsardo volcanic district from deposits of pyroclastic flow in ignimbritic facies, pumice-cinerite, welded, reddish in color, with a macroeutaxitic texture (Unità di Logulentu).
In its current position, the boulder rests on sandstone and sand deposits of the Castelsardo Formation.

Overall, the site necropolis is in a good state of preservation. There are some ongoing minor pathological events, mainly related to weathering and partly to the proximity of

fig. 3/4 - Brief examples of the ongoing degradation pathologies inside and outside the monument, close to decorative motifs.

fig. 5/6 - Erosion phenomena with alveolation, spalling and loss of clasts, detachments and fractures.

the road infrastructure. The presence of moisture with percolating, stagnant and rising water induces the formation of color changes, biological patinas, and erosion by alveolarization (figs. 3-4).

The most significant process is erosion resulting in a new opening in the main chamber (figs. 5-6).

Stability and safety

From a structural point of view, cracks are visible in much of the perimeter of the boulder, connected to rock formation, which does not currently appear to be detrimental to static safety.
Although not included in it, the site is located near an area of another geomorphological risk, right upstream of the SS134 state road identified by PAI Sardegna (fig. 7).

Landscape preservation

The monument area is adjacent to the SS134 state road. This condition is a landscape element that weakly affects the authenticity of the natural context of relevance. The geographical and morphological

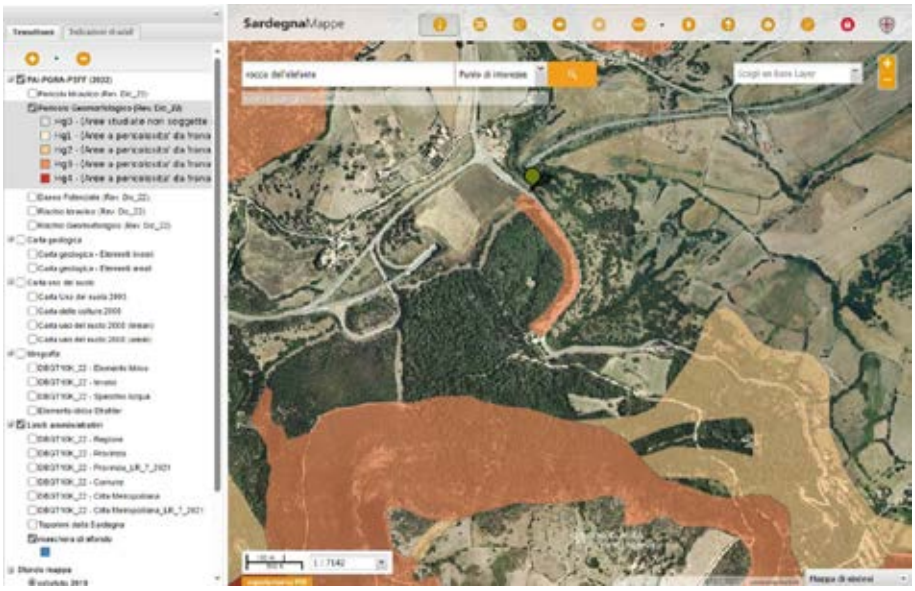


fig. 7 - Geomorphological hazard mapping (source: PAI Sardegna).

fig. 8 - Exterior view of the hole caused by the erosion of the main chamber.

position of the monument and the scenic nature of the site clearly is an effective mitigation element.

Accessibility for conservation

The monument area is easily and immediately accessible, given the presence of the SS134 state road that is adjacent to it.

Conservation operations

Regarding to the actions to be put in place for the conservation of the site and, in particular, the conservation aspects of the paradigmatic tomb, constant inspection and monitoring activities should be performed in order to verify the state of erosion of the monument. At the same time, moderate cleaning of the interior surfaces is suggested, by bonding and grouting the flakes being detached and repairing its lesions, with particular reference to the one affecting the entire perimeter of the tomb. The closure of the hole generated by the erosion of the wall in the main chamber could, in addition, be evaluated, thus reducing the intake of rainwater inside the tomb (fig. 8).

ROCCIA DELL'ELEFANTE
Reference to summary fiches

Degradation reported:

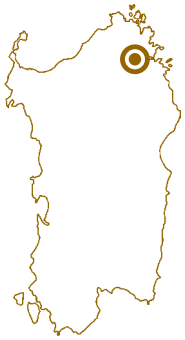
- ☑ Surface decay and weathering
- ☑ Flooding, percolation and runoff events
- ☑ Gaps
- ☐ Structural and/or geotechnical instability and criticality
- ☐ Large infesting plants
- ☑ Degradation of anthropogenic origin from historical or recent use

Suggested operations:

- ☑ Removal/containment of infesting plant
- ☑ Removal of patinas and encrustations
- ☑ Water regulation
- ☐ Consolidations of detached parts
- ☐ Bonding and grouting
- ☑ Integration of gaps/partial reconstructions of missing parts
- ☐ Covers
- ☐ Isolation in a controlled environment
- ☐ Hydrogeological risk mitigation operations

010.
NECROPOLIS OF LI MURI

Arzachena



Strada di Li Lolghi, 07021 Arzachena SS

38CC+3J Arzachena, Sassari Province

The megalithic site of Li Muri is located in northern Sardinia on a low hillside a few kilometers from the town of Arzachena (SS). The necropolis includes four burial circles (tombs I-IV), an *allèe couvèrte* and two menhirs (fig. 1). Specifically, the four burials, resting next to each other, consist of a box made of granite slabs emplaced into the ground and one laid horizontally as a cover, surrounded by concentric circles of stones of varying sizes driven into and covered with earthen mounds. A menhir was emplaced in the outermost circle. Unlike the circles, which could accommodate one or two tombs, the *allèe couvèrte* structures was intended for multiple burials, consisting of a rectangular chamber excavated below the ground level with the long sides consisting of three vertical slabs isolated by a polygonal block at the bottom and surrounded by a mound, except for the open entrance.

fig. 1 - General view of megalithic circle IV and burial chamber

Stone materials and finishings

With reference to the site, in the geological map of Isola Rossa La Maddalena (fig. 2), the necropolis was founded on the Gallura granitoid complex: a Hercynian magmatic cycle, consisting of porphyritic granites with medium- to small-grained groundmass and large feldspar crystals with rhyolitic strands having porphyritic structure. In detail, the necropolis includes inequigranular monzogranite: the same rock was used for making artifacts.

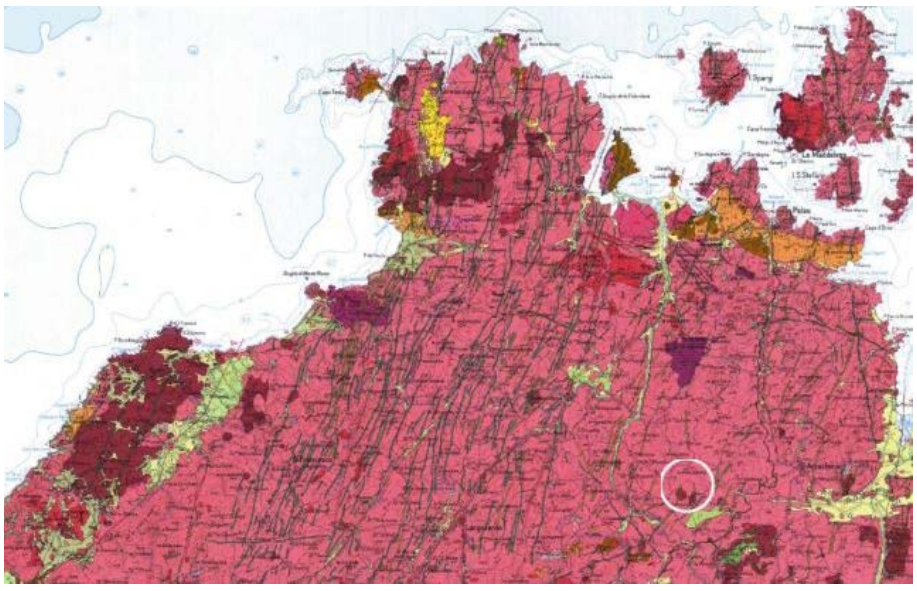


fig. 2 - Geological map of northeastern Sardinia, sheet 167-168, Isola Rossa La Maddalena, scale 1:100,000.

Overall, the site necropolis is in

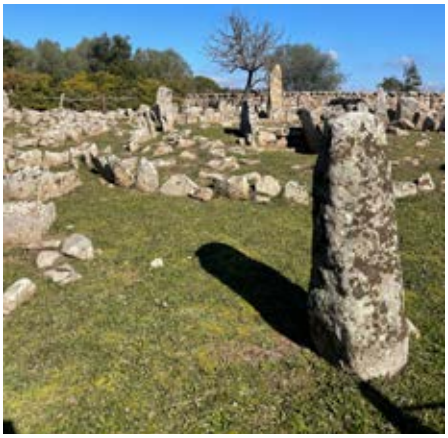


fig. 3/4 - Main types of surface decay and degradation

an excellent state of preservation. The monuments show signs of minor decays due to weathering. Specifically, chromatic changes and biological patinas typical of the natural environment (mosses and lichens) may be seen and they do not affect the conservation of the artifacts (figs. 3-4).

Stability and safety

Some stone elements are affected by limited cracks that, at present, do not affect their structural and geotechnical stability.
According to the PAI Sardegna, the necropolis falls in an area classified as moderate hazard (Hg1) for landslide risk (fig. 5).

Landscape preservation

In terms of of landscape values and integrity preservation, no significant obstacles are reported. The site is located in an almost untouched natural setting. The elements introduced for protection and visitation are fully compatible with the landscape values of the monument.

Accessibility for conservation

The monument area is fully accessible by vehicles and the personnel in charge of the maintenance and management operations of the artifacts. This aspect is particularly important for the periodic mowing and weed control operations.

Conservation operations

Regarding the actions to be put in place for the conservation of the site, regular maintenance of the vegetation with the reduction of spontaneous herbaceous vegetation by mowing and weeding is recommended. Constant monitoring of fractures and surfaces in the portions most affected by biological patinas should also be carried out.

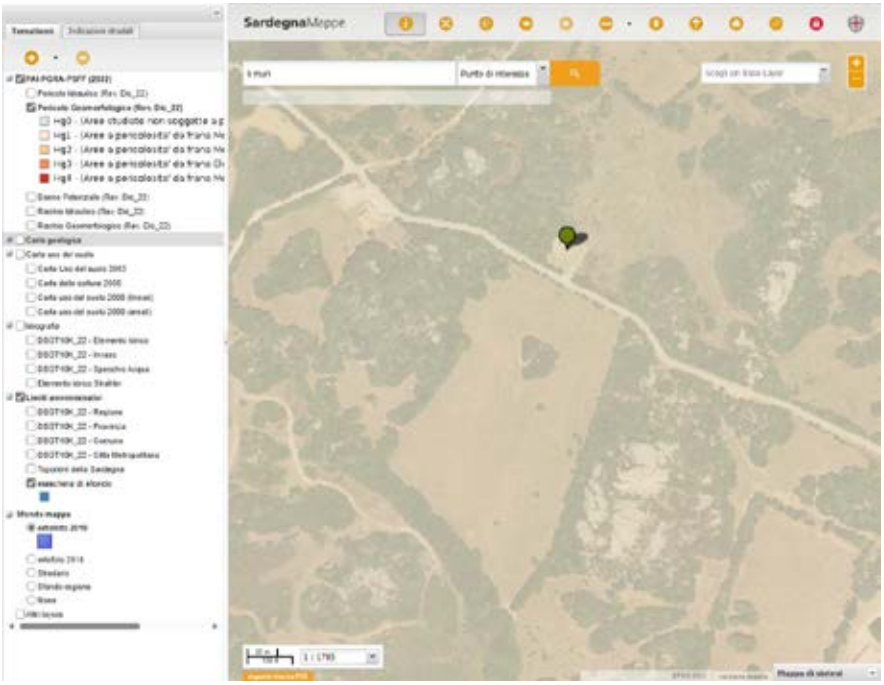


fig. 5 - Hazard mapping (source: PAI Sardegna).

NECROPOLIS OF LI MURI
Reference to summary fiches

Degradation reported:

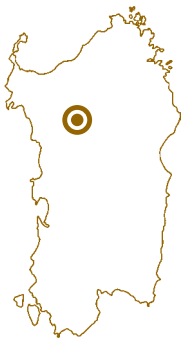
- ☑ Surface decay and weathering
- ☐ Flooding, percolation and runoff events
- ☐ Gaps
- ☐ Structural and/or geotechnical instability and criticality
- ☐ Large infesting plants
- ☐ Degradation of anthropogenic origin from historical or recent use

Suggested operations:

- ☐ Removal/containment of infesting plant
- ☑ Removal of patinas and encrustations
- ☐ Water regulation
- ☐ Consolidations of detached parts
- ☐ Bonding and grouting
- ☐ Integration of gaps/partial reconstructions of missing parts
- ☐ Covers
- ☐ Isolation in a controlled environment
- ☐ Hydrogeological risk mitigation operations

011. PETROGLYPH PARK

Cheremule



07040 Cheremule SS

FPPJ+59 Cheremule, Sassari Province

The The Petroglyph Park is located on a structural terrace in the municipal territory of Cheremule (SS), in the historical region of Meilogu. A total of thirty-seven tombs have been identified, scattered over three areas: Mattarigotza, Moseddu (fig. 1) and Tennero. These typically single-chamber tombs mostly have poor layouts. The paradigmatic tomb, also known as Tomba Branca, is located in the Necropolis of Tennero and has preserved significant anthropomorphic petroglyphs, carved using a traditional hammer.

fig. 1 - General view of the Monumental Complex of Moseddu.

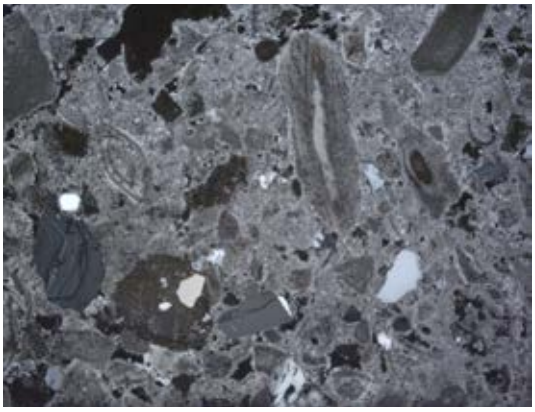
Stone materials and finishings

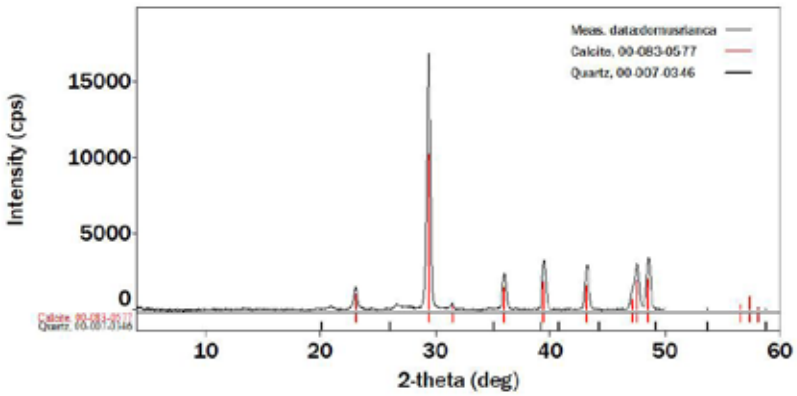
The tombs are carved into the walls of the limestone-sandstone outcrops part of the "Mores Formation", which interrupt the primarily flat profile of the Nurighe plain (fig. 2). Currently, they are bioplastic calcarenites and limestones with different structure ranging from *mudtsone* to *wackstone* (figg. 3-4) and several fossils (fig. 5). The different composition and structure affects the natural degradation level. Overall, the conservation status of the entire park can be described as good.

fig. 2 - Geological map of north-western Sardinia, folio 193, Bonorva.

The soft and crumbly material makes the monument particularly vulnerable to weathering-induced erosion. In particular, alveolization and pitting (fig. 6) resulted in micro- and macro-cavities, where earthy sediments causes the growth of weeds and small seedlings. For this reason, a delicate balance between vegetation cover and the rock-bed has been established in all monumental areas, but without generally triggering significant deterioration processes (fig. 5).

In both the Moseddu and Tennero complexes, several covers were lost





figs. 3/4 - Domus Branca, polarised light microscopy micrograph (2.5X) and X-ray diffractogram.

(fig. 6). Since the chambers had become 'open', during rainy periods, water stagnation is considerable, resulting in the proliferation of biological colonization.
This is also the case in Tomba Branca, part of the buffer zones, but of great scientific importance, where the presence of percolating and stagnation water has facilitated the proliferation of weed-like herbaceous and shrub-like plants, and induced chromatic changes and erosion with surface alveolization and disintegration. Fortunately, due to the presence of a deep overhang, the affected area did not suffer significant damage from weathering (figs. 7-10).

Stability and safety

The areas affected by the hypogea do not show any particular issue in terms of stability and safety. Even for Tomba Branca, already mentioned for its scientific value, the detected crack layout affecting some stone elements does not appear to be such as to affect the structural and geotechnical stability of the monument at the moment (fig. 11).

Landscape preservation

Regarding landscape preservation and integrity, no particular disturbing element is reported. The Necropolis of Moseddu is embedded in a rural landscape of great value, where the presence of trees

fig. 5 - Necropolis of Moseddu, decay in the lower portion caused by rainwater stagnation.

fig. 6 - Necropolis of Moseddu, example of *domus de janas* affected by roof collapse.

fig. 7 - Example of the decay and degradation taking place in Tomba Branca

and biological patinas has resulted in a high landscape environmental and perceptual value (fig. 12).

In Tennero, the presence of typical elements of rural electrical infrastructure and fences made of iron poles and wire mesh, partly affected by corrosion, the conditions of which do not affect the interpretation of naturalistic and cultural aspects. The archaeological perimeters are characterized by traditional dry-stone masonry cross-border fences, built using local stones, suffering from localized minor disconnections and collapses, which are easy to restore.

Accessibility for conservation

The park may be visited through cross-border paths, dirt roads and rocky outcroppings, which, especially during periods of heavy rainfall, tend to be covered by thick weeds – grass and shrubs – which can make it hard for vehicles and the personnel in charge of maintenance and management operations of the artifacts to cross the area.

Conservation operations

For a effective conservation of the site, regular mowing of spontaneous herbaceous vegetation is recommended to be conducted through manual and controlled operations, such that the aforementioned balance between vegetation cover and the rock-bed is not affected.
Inside the chambers, rainwater regulation through conveyance and removal systems is recommended. It would also be advisable to evaluate the localized integration of the gaps opened as a result of the collapse of roofs due to erosion or accidental events, and the sealing of cracks, so as to reduce the potentials access points of rainwater.

figs. 8/10 - From the left, presence of fossil inserts in the rock outcrops;
detail of alveolization in the walls of the Tomba Branca; erosion and patina and carbon black deposits on the ceiling of some tombs.

fig. 11- Petroglyph Park, Tomba Branca

In the sector of Tennero falling within the buffer zone, and in particular for Tomba Branca, monitoring the cracks and the erosion in place, sealing gaps and resealing damaged edges are suggested to promote infiltration and localized water runoff, including the recurring cleaning of biological patinas growing on the rock engravings. In order to mitigate the effect of weathering, the inclusion of a total or partial protective cover is suggested. Such a cover should be designed in full compliance of contextual landscape values.

PETROGLYPH PARK
Reference to summary fiches

Degradation reported:

- ☑ Surface decay and weathering
- ☑ Flooding, percolation and runoff events
- ☑ Gaps
- ☐ Structural and/or geotechnical instability and criticality
- ☐ Large infesting plants
- ☐ Degradation of anthropogenic origin from historical or recent use

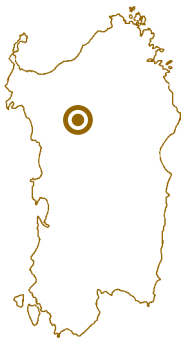
Suggested operations:

- ☐ Removal/containment of infesting plant
- ☑ Removal of patinas and encrustations
- ☑ Water regulation
- ☐ Consolidations of detached parts
- ☐ Bonding and grouting
- ☑ Integration of gaps/partial reconstructions of missing parts
- ☑ Covers
- ☐ Isolation in a controlled environment
- ☐ Hydrogeological risk mitigation operations

fig. 12- Moseddu necropolis, landscape values related to the monument-natural environment relationship.

012.
DOLMEN OF SA COVECCADA

Mores



07013 Mores SS

GV58+7M Mores, Sassari Province

The dolmen of Sa Coveccada is located in northwestern Sardinia near the town of Mores (SS), on the sub-planar ridge of *a cuesta* on outcrops of effusive volcanic rock (fig. 1). The same material was used for the construction of the funerary monument and menhir, found a few tens of meters away. The megalithic structure consists of a rectangular chamber bordered by three slabs, one on each side and one in front, while the rear orthostat appears to be missing. The menhir is currently lying on the ground.

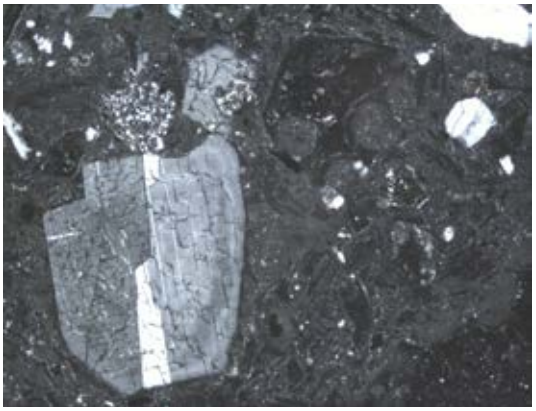
fig. 1 - General view of the dolmen inside its protective structure.

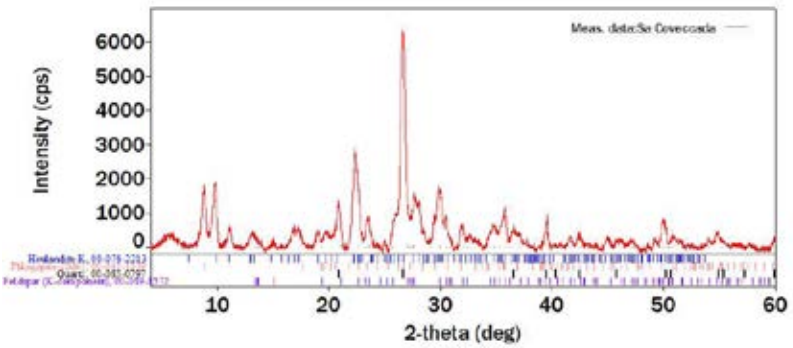
Stone materials and finishings

With reference to the site, the geological map of Bonorva (fig. 2) shows that the area where the megalithic structure rests includes outcrops referable to pre-Helvetian eruption phases characterized by complex trachytoid formations (trachiandesites and vitrotrachiandesites). Thin section microscopy shows that the artifact is made of red rhyolite, with variable texture from medium-welded to welded. It is vulcanite with glassy ground paste and quartz phenocrysts and plagioclase (albite-oligoclase), micas and zeolite, as evidenced by X-ray diffractogram (figs. 3-4). It is particularly brittle in the surfaces exposed to weathering with significant micro- and macro-spalling mechanisms.

fig. 2 - Geological map of Sardinia, folio 193, Bonorva, scale 1:100,000.

This disintegration process has already required multiple conservation operations to date, involving structural restoration and surface consolidation. In particular, in the years 2008-2012, stitching of the disintegrated parts with resins and inert bars, insertion of wedges, sealing and bonding, and general surface treatment were carried out.





figs. 3/4 - Polarised light microscopy micrograph (2.5X) and X-ray diffractogram.

These additions, carried out to restore continuity between the stone masses making up the structure, are particularly evident, in terms of extent, range and color choices, even if kept constantly undercut (fig. 5). A review of the materials using cutting-edge restoration techniques would therefore be recommended.

At present, despite a general good state of preservation, an overall vulnerability of the stone material persists. The erosion process, that is still ongoing, causes the progressive disintegration of the stone surface, which is manifested by the formation of flakes and microcavities. In addition to being a significant issue in itself because of the progressive loss of portions of the dolmen's stone elements, the progressive increase in roughness promotes the surface deposition of earthy materials and the formation of biological patinas (figs. 6-7-8). Rock transformation has also resulted in widespread chromatic changes that, however, do not affect the preservation of the artifact. Especially at their foot, as a result of their exposure to windward rainwater that is not completely stopped by the tall and light provisional cover, the presence of extensive biological patinas is noted. The overall state of the monument's conservation suggests that new studies be undertaken for an additional restoration campaign.

Stability and safety

Unconsolidated surface lesions and evolving spalling and delamination are potential causes of progressive loss of material in the medium term and structural instability in the long term, especially if related to the

figs. 5/7 - General view of the dolmen inside its protective structure.

fig. 8 - Examples of the main surface modifications and decay.

support points of the cover slab on the abutments, issues which require further restoration and consolidation works. Geotechnical stability does not appear to be affected and the area is not subject to hydrogeological hazard.

Landscape preservation

Regarding landscape preservation and integrity, no particular disturbing element is reported. As a matter of fact, the monument lies a non-man-made rural area, where provisional metal structure are built as part of the restoration work to temporarily protect the dolmen (fig. 9). This element, that clearly affects the landscape both in relation to the archaeological artifact and the entire area, will be rearranged in the framework of a specific architectural and landscape study as part of a funded project (funds ex Law no. 190/2014, 2021-2023 period, amount €1,000,000).

Accessibility for conservation

The monument area appears to be fully accessible by personnel and vehicles in charge of maintenance and management operations of the artifacts, a fundamental requirement in relation to the conservation and preservation aspects of the site.

Conservation operations

The monument is currently subject to planning, and restoration and consolidation works are being executed by the MIC Sardinia Regional Secretariat, which will have to consider a critical review of previous restorations, resorting to cutting-edge techniques and materials that are more compatible with the performance and lithological characteristics and the aesthetic value of the megalithic structure, in order to permanently remove the provisional cover.
However, upon completion of the work, periodic monitoring of the lesions and the erosion degree of the surfaces will be necessary in order to monitor the progress of the ongoing conditions. Maintenance operations will also have to include the removal of biological patinas from stone surfaces.

fig. 9 - The pristine landscape with the provisional cover that will be removed after restoration.

SA COVECCADA
Reference to summary fiches

Degradation reported:

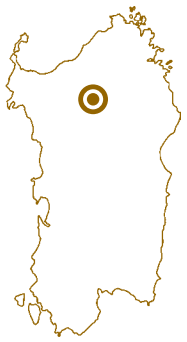
- ☑ Surface decay and weathering
- ☐ Flooding, percolation and runoff events
- ☐ Gaps
- ☑ Structural and/or geotechnical instability and criticality
- ☐ Large infesting plants
- ☑ Degradation of anthropogenic origin from historical or recent use

Suggested operations:

- ☐ Removal/containment of infesting plant
- ☑ Removal of patinas and encrustations
- ☐ Water regulation
- ☑ Consolidations of detached parts
- ☑ Bonding and grouting
- ☐ Integration of gaps/partial reconstructions of missing parts
- ☑ Covers
- ☐ Isolation in a controlled environment
- ☐ Hydrogeological risk mitigation operations

013.
SHELTER OF LUZZANAS

Ozieri



07014 Ozieri SS

MV2R+92 Ozieri, Sassari Province

The Shelter of Luzzanas is located on the south-south-eastern face of volcanic tufa *cuesta* on the Chilivani Plain, in the Municipality of Ozieri (SS), in north-central Sardinia, and is characterized by the presence of some ochre pictorial motifs (fig. 1).

fig. 1 - Shelter of Luzzanas.

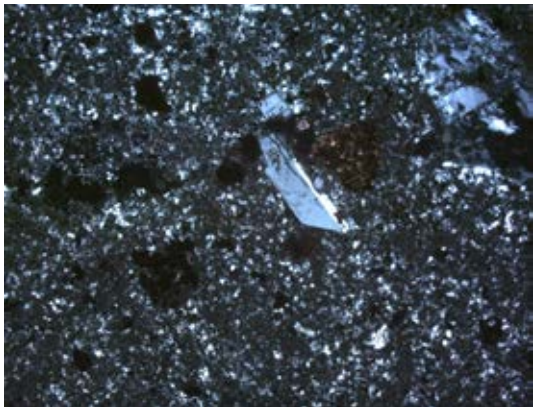
fig. 2 - Geological map of Sardinia, folio 193, Bonorva, scale 1:100,000.

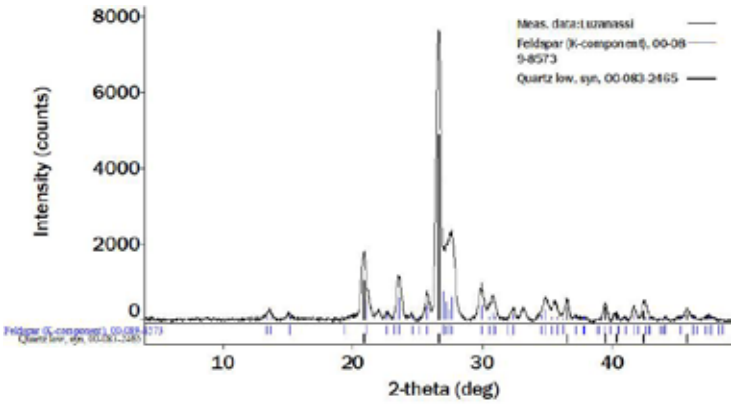
Stone materials and finishings

With reference to the site, the geological map of Ozieri (fig. 2) shows the outcrop of effusive volcanite formations consisting of liparites, dacites, trachytes, and their intersections. Thin-section microscopy performed on a rock sample similar to the one where the rock paintings were made, shows a very compact rhyolite, which appears to be well welded and has a pinkish-colored porphyritic structure (fig. 3). It is vulcanite with microcrystalline ground paste and quartz phenocrysts and plagioclase (albite-oligoclase), as evidenced by X-ray diffractogram (figs. 34). Consistent with the highlighted lithological characteristics, the rock masses bordering the shelter show limited spalling and surface exfoliation, including close to the pictorial decorations (fig. 5). Superficial sediments and biological colonization result from the presence of water from moisture, stagnation and percolation, especially patinas, chromatic changes which are currently not detrimental to the preservation and integrity of the entire archaeological record (fig. 6). Being a natural ravine, the monument is immersed in native vegetation, with no visible problems of mutual coexistence and conservation. Therefore, it is considered to be in a good state of conservation overall.

Stability and safety

The full front side of the *cuesta* shows traces of a landslides typical





figs. 3/4 - Polarized light microscopy photomicrograph (2.5X) and X-ray diffractogram showing quartz and feldspar reflections.

figs. 5/6 - Spalling, patinas and encrustations of pictorial decorations.

fig. 7 - Fractures in the large boulders encircling the shelter.

of rock masses (sliding, collapse/tilting) with multi-directional retrogressive movements, in a quiescent or relict state. Close to the shelter, fracturing and possible detachment of portions of the rock face are reported. Securing them is essential for the stability of the entire slope (fig. 7).
The area is reported by PAI Sardegna with medium geomorphological hazard (Hg2) for collapse/tilting type mechanisms (fig. 8).

Landscape preservation

The shelter is embedded in a farmland parceled out into lots and characterized by the presence of a small water reservoir (fig. 9). Nearby, there are some artifacts useful for the farming activities which do not affect the landscape values of

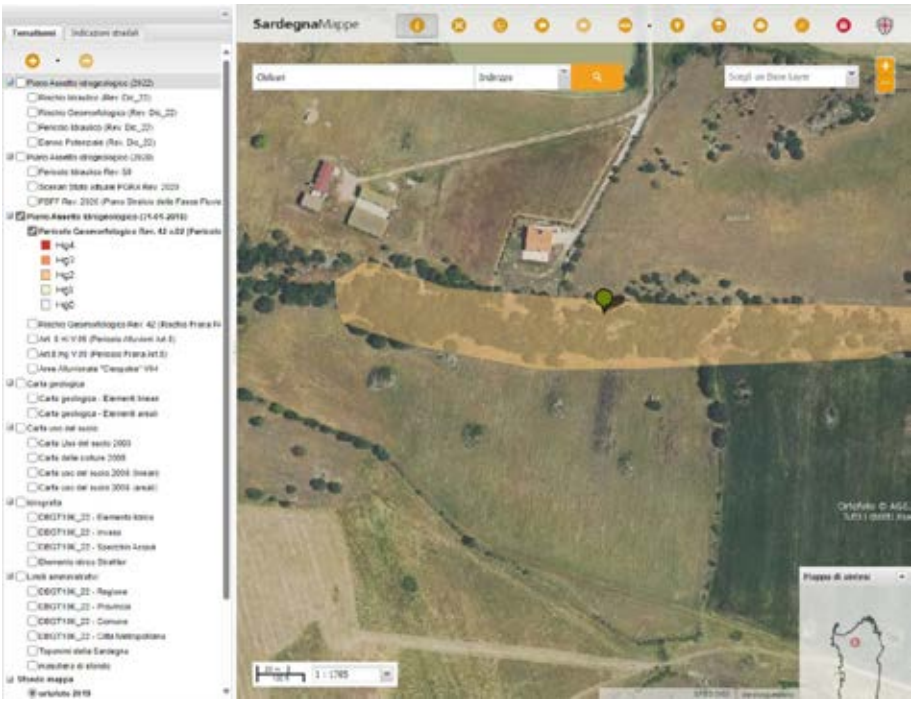


fig. 8 - Hazard mapping (source: PAI Sardegna).

fig. 9 - Landscape context.

the monument thanks to the presence of lush vegetation consisting of tree and shrub species around the archaeological site, serving as an effective visual mitigation filter.

Accessibility for conservation

The site is currently not directly accessible by public roads and provides for the use of a narrow path that can make it difficult for maintenance vehicles to pass. However, the monument can still be reached on foot for inspections and minor maintenance, after mowing and weeding the track.

Conservation operations

The site has never been restored. The state of conservation suggests the need to constantly monitor the wide fracture that affects one of the large boulders bordering the shelter and the surface erosion degree, especially where rock paintings are found. Erosion and spalling may require micro-adhesion, sealing and cortical consolidation operations. The external organic patinas do not interfere with the preservation of the artifact and help keep the landscape context unaffected. Internal patinas, especially those associated with sediments and incrustations overlapping with the pictorial decorations, should be removed.

LUZZANAS
Reference to summary fiches

Degradation reported:

- ☑ Surface decay and weathering
- ☑ Flooding, percolation and runoff events
- ☐ Gaps
- ☑ Structural and/or geotechnical instability and criticality
- ☐ Large infesting plants
- ☐ Degradation of anthropogenic origin from historical or recent use

Suggested operations:

- ☐ Removal/containment of infesting plant
- ☑ Removal of patinas and encrustations
- ☑ Water regulation
- ☐ Consolidations of detached parts
- ☑ Bonding and grouting
- ☐ Integration of gaps/partial reconstructions of missing parts
- ☐ Covers
- ☐ Isolation in a controlled environment
- ☑ Hydrogeological risk mitigation operations

014.
NECROPOLIS OF SANT'ANDREA PRIU

Bonorva

Piana Santa Lucia, 07012 Bonorva SS

CRCW+MV Bonorva, Sassari Province

The Necropolis of Sant'Andrea Priu is located on the front of a volcanic tuff *cuesta* not far from the town of Bonorva (SS). To date, the necropolis includes fifteen burials of variable type and complexity, but mainly multicellular (fig. 1). In the central part of the necropolis there are three tombs: Tomb V or Tomba della Capanna Rotonda (Circular Hut Tomb); Tomb VI or Tomba del Capo (Chief's Tomb), divided into 18 rooms, preserves evidence of the modifications introduced in the early Christian, Byzantine and Middle Ages, when the monument was adapted to Christian worship; Tomb VIII or Tomba a Camera (Chamber Tomb) features elements reused during the Late Roman Age and is characterized by valuable decorations, such as the double sloping ceilings and the floor cup-and-circle stones. A short distance from these tombs, there is a unique perforated rock, resembling a headless bull, which might have been a hypogeal sculpture or tomb.

fig. 1 - Archaeological complex of Sant'Andrea Priu.

fig. 2 - Geological map of Sardinia, folio 193, Bonorva, scale 1:100,000.

Stone materials and finishings

With reference to the site, the geological map (fig. 2) shows the outcrop of effusive volcanite formations consisting of liparites, dacites, trachytes, and their intersections. The archaeological complex enjoys an excellent state of conservation, also because of its constant main-

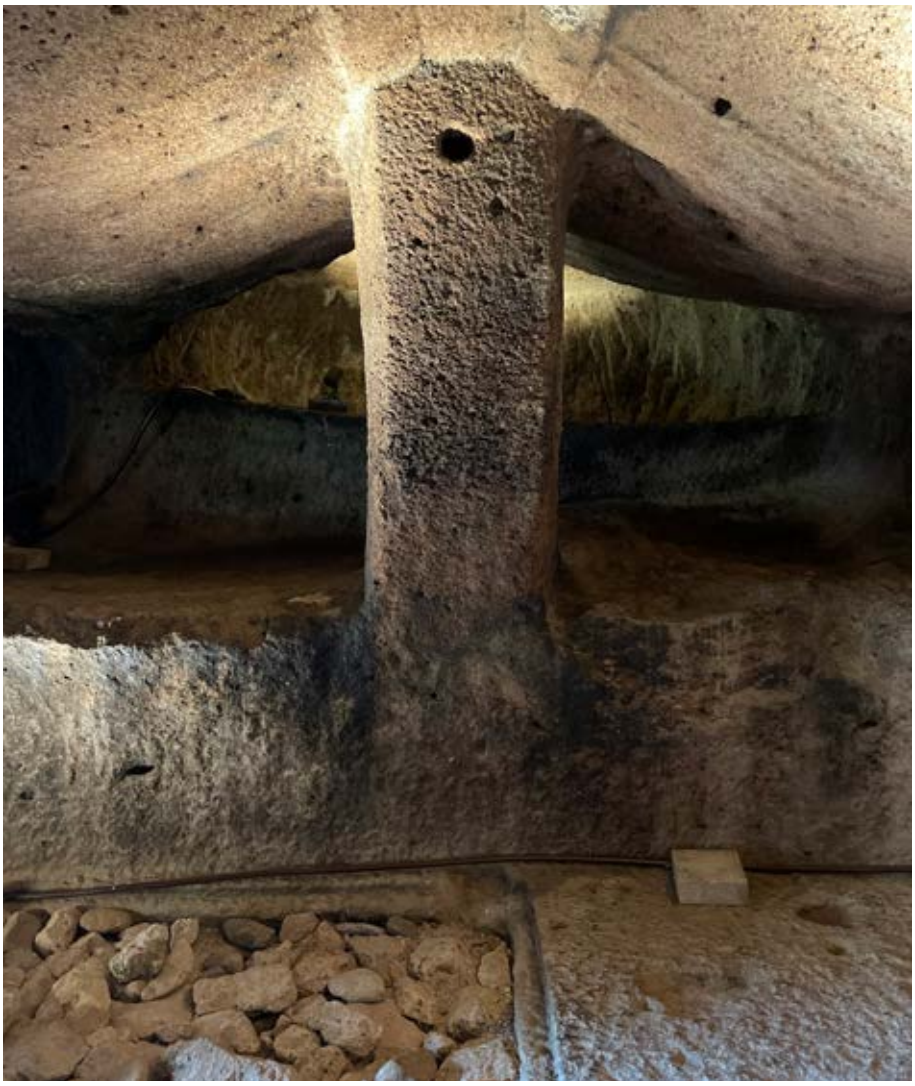


fig. 3/4 - Chamber Tomb, examples of ongoing degradation.

tenance and management. Stone surfaces are affected by a slight alveolarization, surface sediments and biological patinas, developed especially where moisture, or infiltration or percolation water are more frequent. Only in some spots, erosion is greater with the loss of thick portions of stone elements: this is the case for one of the pillars of the Chamber Tomb (fig. 3) that has suffered a significant section loss. This phenomenon is found also in the basal portions of the chamber walls, with less visible results, where also biological colonizations and exfoliations are reported, which overall do not affect the conservation of the monument (fig. 4). Similar biological covers and spalling are visible in the Chief's Tomb, with large undecorated portions – especially ceilings – affected by sediments and encrustations. Some Tombs, deprived of their cover as a result of the ancient collapse of ceiling portions, are exposed to flooding as a result of water seeping through the gaps.
Roccia del Toro shows visible erosion with alveolarization, moss and lichen colonization, as well as spalling and fractures.

Stability and safety

Relict erosion and the instability of the rock face are clearly visible, as well as ongoing cracks on the archaeological artifacts at the top of the rocky slope (where the so-called Roccia del Toro is located). The stability condition of the rock has recently been monitored and subject to safety operations (dry-laid stone walls, nails, masonry nets).
The necropolis has an average geomorphological hazard level (Hg2) according to PAI Sardegna maps (fig. 5).

Landscape preservation

In terms of of landscape values and integrity preservation, no significant obstacles are reported. The

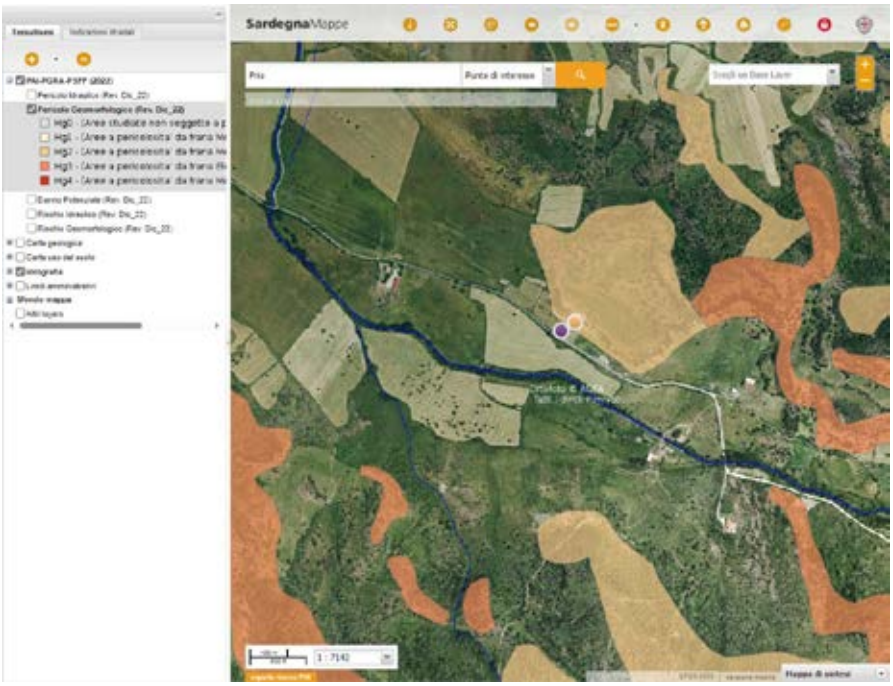


fig. 5 - Geomorphological hazard mapping (source: PAI Sardegna).

fig. 6 - Corten steel walkway to reach the entrances to the tombs.

works carried out to facilitate visitation, such as the installation of the corten steel walkway to enter Tomba del Capo, appear compatible with the protection of the cultural landscape of the necropolis (fig. 6).

Accessibility for conservation

The monumental area may be easily and readily accessed by small vehicles and the personnel responsible for managing the artifacts.

Conservation operations

The site is subject to constant monitoring and maintenance that guarantee the preservation of the excellent state of preservation. However, actions to consolidate eroded surfaces and occasional operations to remove more or less consistent and persistent biological patinas and dust sediments may be planned. The presence of biological layers is particularly visible in the low portions of the walls, adjacent to the floor, due to the presence of stagnation water, but also on eroded rough surfaces where they develop easily thanks to the earthy sediments accumulated in the cracks. In the few tombs which are often flooded due to the presence of gaps in the ceilings, integration operations may be considered to reduce rainwater seepage and runoff.
On Roccia del Toro, operations on fractures and cracks (especially in the legs of the bull), and sealing of the lesions are to be planned.

S. ANDREA PRIU
Reference to summary fiches

Degradation reported:

- ☑ Surface decay and weathering
- ☑ Flooding, percolation and runoff events
- ☑ Gaps
- ☑ Structural and/or geotechnical instability and criticality
- ☐ Large infesting plants
- ☐ Degradation of anthropogenic origin from historical or recent use

Suggested operations:

- ☐ Removal/containment of infesting plant
- ☑ Removal of patinas and encrustations
- ☑ Water regulation
- ☑ Consolidations of detached parts
- ☐ Bonding and grouting
- ☑ Integration of gaps/partial reconstructions of missing parts
- ☐ Covers
- ☐ Isolation in a controlled environment
- ☑ Hydrogeological risk mitigation operations

015.
NECROPOLIS OF SA PALA LARGA

Bonorva

07012 Bonorva SS

CV6C+6P Bonorva, Sassari Province

The Necropolis of Sa Pala Larga is located on the slope of a volcanic tuff *cuesta* close to the Necropolis of Sant'Andrea Priu, not far from the town of Bonorva (SS). It is included in Parco Mariani, a protected area managed by the FoReSTAS Regional Agency. To date, the necropolis includes eleven tombs of variable type and complexity, some of which are not fully excavated (fig. 1). Among those already investigated and available, some are worth mentioning, such as, in particular, Tombs I, II, III and VII which preserve decorative bas-reliefs and paintings of exceptional technical and formal quality.

fig. 1 - General view of the site.

Stone materials and finishings

With reference to the site, the geological map shows the outcrop of effusive volcanite formations consisting of liparites, dacites, trachytes, and their intersections (fig. 2), which characterize the underground environments of the necropolis. The whole area enjoys a sufficient state of conservation. As a matter of fact, even in relation to the textural characteristics of the lithological structure, erosion processes that range from alveolarization and pitting to spalling and the resulting loss of material are observed, especially on surfaces exposed to weathering. Fractures resulting from argillification are also frequent (fig. 3). The appearance of

fig. 2 - Geological map of Sardinia, folio 193, Bonorva, scale 1:100,000.

fig. 3 - Rock argillification is the most significant type of degradation of the rock bed where the *domus de janas* (rocky floor of the dromos in Tomb I) are excavated.

fig. 4 - Structural issues in Tomb III.

cracks due to fracturing and alveolarization leads to the formation of earthy sediment pockets, where minor weeds grow. Their root systems can still result in detachments, lifting small scales of material (especially where paintings are found) which then detach and create small gaps (figs. 4-5).
In order to slow down this process, Tombs I and III were recently protected through a light shell of synthetic dirt-colored material, shaped according to the edges of each individual tomb and fixed by sealant (fig. 6).
The protected interior surfaces are affected by fractures, some of which are old and sealed during previous restoration operations, and some are new. They are also affected by processes typically attributable to the interchange mechanisms between walls and the micro-climate, between the inside and the outside of the tombs, in a delicate climate balance: biological patinas, chromatic changes and encrustations (fig. 7).
Tomb VII, that was encapsulated after the 2008 excavation, using a corten steel shell and subject to strict isolation, deserves an specific focus study (fig. 8). The studies carried out in recent years on painted surfaces published by Usai, Sartori, Costanzi Cobau in 2011, have led the officials of the protection offices to opt for the closure of the hypogeum due to the major risk of microbiological degradation.
In particular, it is believed that the micro-climate conditions, due to their high relative humidity values, may favor the development of heterotrophic fungi and bacteria with deteriogenic potential for the works.
Another risk factor for biological degradation is the variations in the levels of biological air contaminants

fig. 5 - Proliferation of small weeds in the cracks created by fracturing, triggering detachment, spalling and the subsequent formation of gaps (Tomb I).

with increases in biodeteriogenic species. Therefore, the entry and stay of visitors inside the tomb, but also the use of warm light lamps, the opening or closing of exchange routes with the outside, the use of wooden elements are considered particularly dangerous.
The interior of Tomb VII shows its vulnerability. The paintings made on the thin lime and sand mortar layer show visible spalling, resulting in the lifting of scale edges, as well as widespread pitting and vacuolization. Some deep cracks appear on the walls, such as the one affecting the central (non-load-bearing) pillar subject to sliding and currently secured with support beams (fig. 9). However, the most worrying element of degradation is the presence of a biological pathogen (possibly, fungal), that seems to thrive on black paint as a rooting substrate. This biological cover is particularly visible in the grazing light, where it reacts with bluish reflections that make it stand out from the black paint (fig. 10).

fig. 6 - Lightweight shell made of synthetic material, resting on the edge of the gap that used to expose Tomb I to the weather.

On the additional shell, despite the internal corten steel coating, there are small infiltrations of rusty substances produced by the metal, shaped as stalactites.
In order to allow the promotion and cognitive accessibility of Tomb VII to all visitors, a 1:1 copy of the entire hypogeum is being made in the area where the Park's reception centre is located.

Stability and safety

There are clearly visible erosion and decay of the rock (argillification)

fig. 7 - Example of the decay and pathologies occurring in Tomb I.

which have caused the collapse of the vaults in the antechamber of Tombs I, II and III. The stability of the rock mass does not seem to be currently affected, although the PAI Sardegna document shows a high geomorphological hazard level (Hg3) for the necropolis area (fig. 11).

Landscape preservation

The necropolis is part of an untouched landscape, called Parco Mariani, a complex of 570 hectares of woodland located between the plain of Santa Lucia and the ridges bordering Barbagia and Marghine, currently managed by the FoReSTAS Regional Agency.

fig. 8 - The confinement shell of Tomb VII, fixed on the sides of the *dromos*.

The area is characterized by the presence of large drove roads and it is rich in pastures and springs, as well as several tree species, shrubs and other plant species.

Accessibility for conservation

The area is accessible on foot or by off-road vehicles, used by the FoReSTAS staff for the management and maintenance of the structure.

Conservation operations

Regarding the actions to be implemented for the conservation of the site, constant monitoring is recommended for the cracks connected to stone argillification, as well as the the extent of biological colonization. In addition, the reduction of spontaneous herbaceous vegetation in the vicinity of hypogea I-III must be carried out regularly. As for Tomb VII, a specific analysis of biodeteriogens and the thermo-hygrometric equilibrium induced by the confined environment must

fig. 9 - Passing crack in the central pillar of Tomb VII.

fig. 10 - Differential biological colonization that mainly affects the black paint layer of Tomb VII.

be encouraged. The crack affecting the central pillar, for which a consolidation operation should be designed, must also be constantly monitored. In order to maintain the isolated environment and minimize any interference with the external environment, a 1:1 scale replica of tomb VII is being built, located near the reception buildings of Parco Mariani. However, further studies and restorations appear urgent, for which funds are already available: the works on the *domus de janas* VII will be funded under Law 190/2014 for the 2016-2018 three-year period; the excavation and restoration of *domus de janas* I, II, III will be funder under the RAS "Piano Scavi" funding scheme (€140,000).

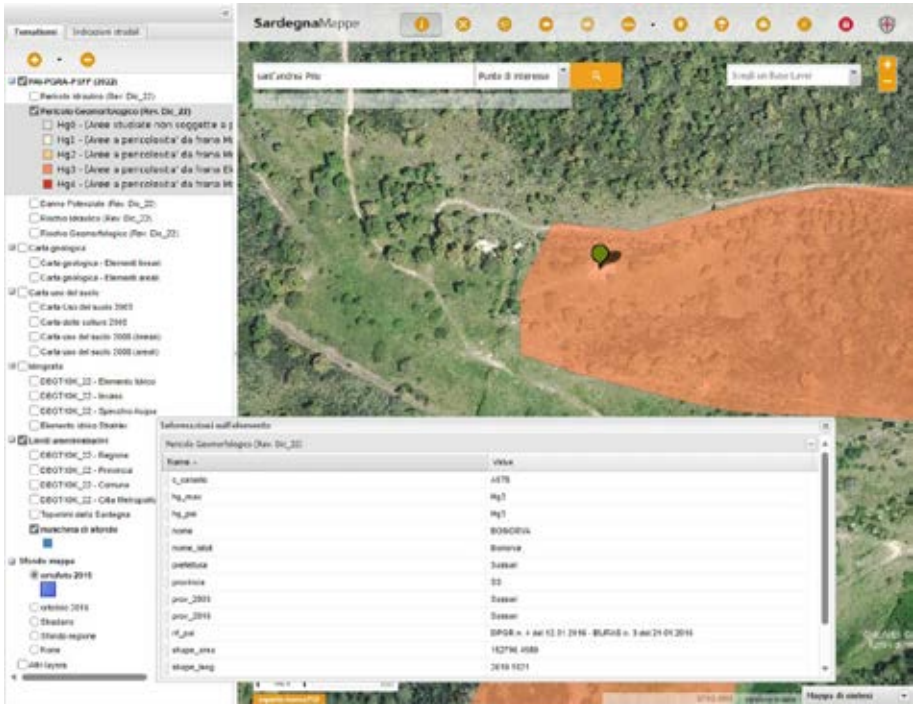


fig. 11 - Geomorphological hazard mapping (source: PAI Sardegna).

SA PALA LARGA
Reference to summary fiches

Degradation reported:

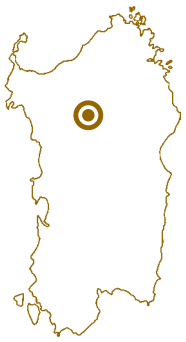
- ☑ Surface decay and weathering
- ☑ Flooding, percolation and runoff events
- ☐ Gaps
- ☑ Structural and/or geotechnical instability and criticality
- ☐ Large infesting plants
- ☐ Degradation of anthropogenic origin from historical or recent use

Suggested operations:

- ☐ Removal/containment of infesting plant
- ☑ Removal of patinas and encrustations
- ☑ Water regulation
- ☑ Consolidations of detached parts
- ☑ Bonding and grouting
- ☐ Integration of gaps/partial reconstructions of missing parts
- ☐ Covers
- ☑ Isolation in a controlled environment
- ☑ Hydrogeological risk mitigation operations

016.
NECROPOLIS OF SOS FURRIGHESOS

Anela



07010 Anela SS

FXJC+HM Anela, Provincia di Sassari

The Necropolis of Sos Furrighesos is located in the Municipality of Anela (NU), on the rocky front at the final part of Pianu Oschiri, a volcanic plateau on the borders between Goceano and Logudoro, bordering downstream by Riu Buttule. To date, the archaeological complex consists of eighteen burials, excavated on three different horizontal superimposed levels starting from the foot of the ridge. The tombs develop horizontally and usually have a simple layout — single-chamber, two-chamber and T-shaped — with little complexity and regular shapes. In particular, Tomb VI, including an antechamber and two adjacent chambers, features decorative architectural and figurative elements of considerable interest.

fig. 1 - General view of the rock cliff.

Stone materials and finishings

With reference to the site, the geological map of Ozieri shows that, in the area where the necropolis rests, there are outcrops dating back to Paleogene and characterized by leucocratic tuffs, arranged in interchanging layers and grading levels, having a varied color with grain ranging from medium to fine, usually not very coherent, lava with trachitic structure ranging from pink to brown, and strengthened and homogeneous ignimbrites (fig. 2). The necropolis has a sufficient state of conservation. The walls outside

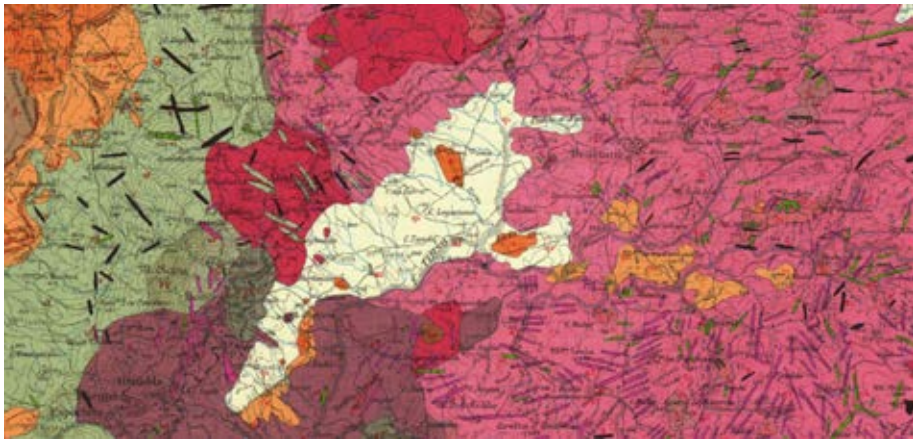


fig. 2 - Geological map of central-northern Sardinia, folio 193, Ozieri, scale 1:100,000.

figs. 3/4 - Examples of the decays and pathologies taking place on the external and internal surfaces of the tombs.

the hypogeum and, in particular, Tomb IX (fig. 3) show decays and pathologies directly connected with the natural reference context and weathering, such as chromatic change, erosion with increased surface roughness and a subsequent surface sediments and biological colonisations, varying in colour from ochre to brown. The surrounding vegetation, particularly lush, has a weed-like appearance in several parts of the necropolis, locally causing fractures and minor collapses. Inside the hypogea, the presence of infiltration and stagnation water contributes to the deterioration of the surfaces (fig. 4). In addition, carbon black incrustations are reported, probably resulting from the presence of hearths inside the chambers; minor, but widespread spalling of painted surfaces; fractures and surface degradation with localized gaps (figs. 5-6-7). A degradation factor that must be remedied is the presence of wild an-

figs. 5/7 - Ongoing degradation: spalling and loss of small portions of the pictorial surface (pitting and vacuolization); surface fracturing; spalling and detachment of stratigraphic portions.

figs. 8/9- Pathologies related to the decorative elements engraved in Tomb VIII: localized detachment of engraved surfaces, probably of anthropic origin; presence of incrustations and biological patinas.

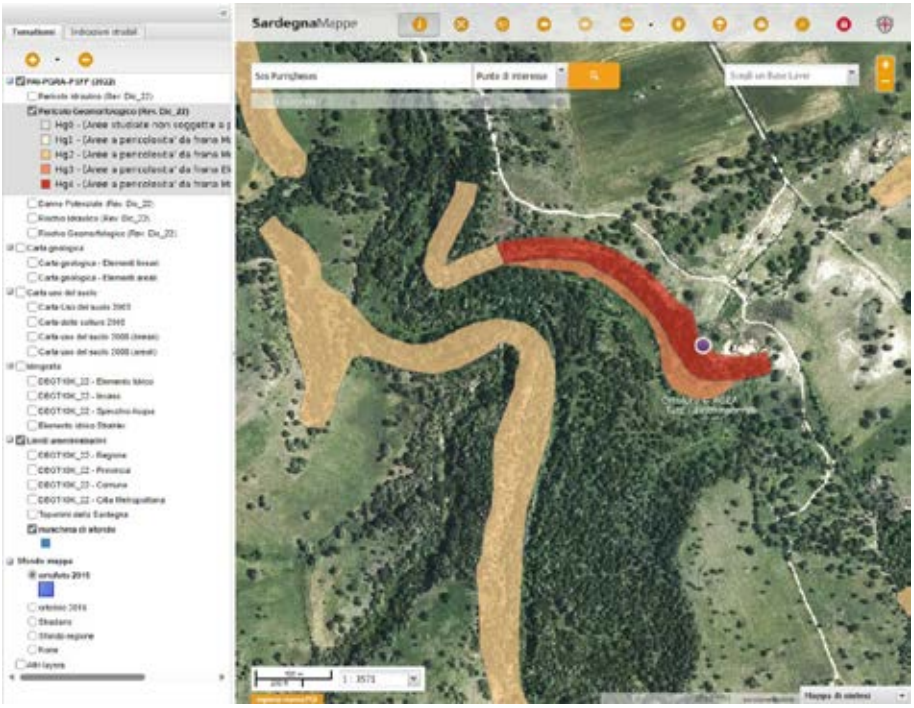


fig. 10 - Geomorphological hazard mapping (source: PAI Sardegna).

imals inside the chambers, including large cattle (goats), which seek refuge there, sometimes remaining trapped inside them. Moving inside the rooms, scraping walls and the accidental impacts of their horns can cause great damage in terms of preservation of authentic historical heritage (figs. 8-9). These problems will be solved thanks to two projects for the conservation and promotion of the site: the first, already approved by SABAP Sassari, is funded by the Municipality within the "Special regional plan for archaeological excavations and cultural heritage promotional activities" (€ 60,000.00); the second is funded by the Regional Department of Public Education, Cultural Heritage, Information, Entertainment and Sport (€ 330,000.00).

Stability and safety

Regarding the static and geotechnical aspects, the presence of a cracking pattern is currently not detrimental to structural stability, disregarding the damaged pillar of Tomb IX.

However, the necropolis is located in a context of high hydrogeological hazard (source: PAI Sardegna), as shown by the presence of large volumes of debris at the foot of the slope, resulting from landslides caused both by geomorphological factors and by the erosive action of Riu Tuvu ‘e Carru that flows at the foot of the cliff, down to the intersection with the Riu Mannu in Ozieri, slightly to the north (fig. 10).

Landscape preservation

The necropolis is part of an untouched landscape characterized by a wide clearing of native plants surrounding the rocky outcrop. Regarding the 2008 excavation and securing of tomb XV, located on the plateau above the rocky ridge, the following is to be mentioned.

fig. 11 - The 2008 corten steel cover protecting Tomb XV and its installation in the landscape.

In particular, the roof consisting of corten steel plates and L-shaped profile reinforcements is a non-invasive addition to the surrounding natural environment and it does not cause an excessive visual interference with the monument and its context (fig. 11).

Accessibility for conservation

The monumental area is currently not easily accessible as it is necessary to use a dirt path to reach the hypogea and the rocky outcrop is quite uneven. Some tombs are also located at a significant height on the ridge and it is not easy to check them. This problem will also be addressed by the two above-mentioned projects focusing on the conservation and promotion of the site.

Conservation operations

The current state of conservation, pending the afore-mentioned restoration projects, requires an overall removal of the sediments of earthy material, guano and the dust settled inside the rooms and the initiation of a restoration campaign focusing on the internal surfaces, to remove biological patinas and carbon black sediments. Cracks must also be kept under constant monitoring, both on the exterior of the rocky ridge and the interior of the tombs, paying particular attention to the afore-mentioned pillar that supports the intrados of the inner chamber in Tomb IX. On the other hand, patinas and external sediments are not believed to interfere with the preservation of the artifact, guaranteeing a pleasant chromatic appearance that nicely complements the landscape of reference.

As for the infesting vegetation, manual pruning and the spraying of biocidal products is recommended, in order to weaken the root systems infiltrating the rocky walls of the tombs, and thus minimize the ongoing fracturing processes.

SOS FURRIGHESOS
Reference to summary fiches

Degradation reported:

- ☑ Surface decay and weathering
- ☑ Flooding, percolation and runoff events
- ☐ Gaps
- ☑ Structural and/or geotechnical instability and criticality
- ☑ Large infesting plants
- ☑ Degradation of anthropogenic origin from historical or recent use

Suggested operations:

- ☑ Removal/containment of infesting plant
- ☑ Removal of patinas and encrustations
- ☑ Water regulation
- ☐ Consolidations of detached parts
- ☑ Bonding and grouting
- ☐ Integration of gaps/partial reconstructions of missing parts
- ☐ Covers
- ☐ Isolation in a controlled environment
- ☑ Hydrogeological risk mitigation operations

017.
VILLAGE OF SERRA LINTA

Sedilo

09076 Sedilo OR

4WV3+6XW Sedilo, Oristano Province

The Neolithic village of Serra Linta is located in central Sardinia, in the Municipality of Sedilo (OR).
The site spreads over about 40 hectares and it was discovered following the partial emptying of the artificial basin of Lago Omodeo that floods it at certain times of the year, depending on the dam water levels (fig. 1).
The village preserves nine dwellings based on a module consisting of two rooms, one rectangular and one semicircular one, adjacent to each other. The layout of a circular hut and a semicircular structure are also reported.

fig. 1 - Archaeological structures of the ancient village.

Stone materials and finishings

With reference to the site, the geological map of Capu Mannu Macomer, shows that the area where the village was built features continental blocks dating back to the Holocene and consisting mainly of aquifer deposits, manure conoids and flood deposits, sometimes alternating with Pleistocene basalts, pumiceous tuffs and finely stratified oligocene tuffs, and gray alkaline basalts alternating with trachibasalts and weakly alkaline basalts, sometimes markedly porphyritic due to the presence of olivine crystals (fig. 2).
Periodic flooding has allowed to keep a good state of preservation of the traces of the settlement, as the presence of water has prevented the growth and favored the withering of plant species that used to cover the the huts before the construction of the dam. This phenome-

fig. 2 - Geological map of central-western Sardinia, folio 205-206, Capu Mannu-Macomer, scale 1:100,000.

fig. 3 - Wall detail of the old huts. The settled pebbles brought by water accumulated on and around the structures.

fig. 4 - Partially flooded structures The image also effectively illustrates the process of pebble accumulation in the archaeological area.

non also prevented deep ploughing by mechanical equipment in that portion of the valley, which might have caused misalignment, change of position and destruction of the residual elements of the huts, that is, the foundations including their stone elements. However, a portion affected by quarrying activities for the production of sand is worth mentioning, since it affected the interpretation of some floor layouts. Another problem concerns the deposits of pebbles and debris above archaeological structures, which can reduce their legibility (fig. 3).

Stability and safety

In term of conservation and, in particular, statics, there are no critical issues, since the structures are arranged in lineups or flooring only, without any risk of collapse. From a geomorphological point of view, there are no issues, since the site is sub-horizontal and flooding is the best form of protection, although it is an obstacle to the promotion and musealization of the site. However, appropriate geotechnical analyses are recommended to assess whether rapidly emptying the reservoir (due to anthropogenic activity or wall collapse) may trigger the kinematics of bank landslides in the area.

Landscape preservation

The village is part of an environmental that, although consisting of an artificial reservoir, has a significant landscape values. The area is included in the list of Sites of Community Importance (SCI) and is characterized by the presence of holm oaks, downy oaks, and Mediterranean scrubs, alternating with riparian shrub species.

Accessibility for conservation

The site is easily and fully accessible by operators and small maintenance only when the water level of Lago Omodeo decreases.

Conservation operations

To day, the good conservation conditions of the site do not require any restoration work. However, when the site is accessible, monitoring is recommended to evaluate the potential initiation/establishment of degradation mechanisms on the archaeological settlement or changes to the bedrock elements. To this end, the water level increase and decrease rates need to be monitored, in order to avoid the displacement of archaeological materials potentially by the waves (fig. 4).

018.
NECROPOLIS OF ILOI ISPILUNCAS

Sedilo

09076 Sedilo OR

4WV3+6XW Sedilo, Oristano Province

The archaeological complex of Iloi Ispiluncas is located in central Sardinia, in the homonymous area included in the Municipality of Sedilo (OR). The necropolis includes thirty-six *domus de janas* located on the south-eastern cliff of the Abbasanta plateau, sloping towards Lago Omodeo. The site includes hypogea having a very simple, single-chamber and two-chamber quadrangular layout, but also multi-chamber complexes (Tombs I, II and III) (fig. 1).

Stone materials and finishings

The geological map of Capu Mannu Macomer shows a fairly complex surface geological layout for the area where the necropolis rests (fig. 2). The plateau of Planargia and Abbasanta consists of gray alkaline basalts alternating with trachibasalts and weakly alkaline basalts, sometimes with very porphyritic rocks due to the presence of olivine crystals associated with more ancient coarse material sediments (sandstone, marl, pumiceous tuff). In particular, in the area of the necropolis, pumice tuffs and finely stratified tuffs outcrop in a context of manure conoids and the presence of slope sediments.
Overall, the state of conservation of the entire site is poor.
The stone material is particularly brittle in the surfaces exposed to weathering with significant micro-

fig. 1 - Tomb II, entrance.

fig. 2 - Geological map of central-western Sardinia, folio 205-206 Capu Mannu-Macomer, scale 1:100,000.

fig. 3 - Picture of cracks inside Tomb I.

fig. 4 - Cracks induced by the growth of the root systems of local trees infiltrating the rock wall where Tomb II was excavated

and macro-spalling mechanisms. Some of the hypogea in the necropolis show conditions of severe degradation, due to a complex net of cracks (fig. 3) partly favored by the presence of infesting trees, having root systems of considerable size deeply infiltrating the rocky walls of the tombs (Tomb II, fig. 4). Indeed, the whole landscape is characterized by a thick vegetation surrounding the hypogea (fig. 5). The presence of rainwater and groundwater on the walls outside the tombs caused widespread chromatic changes and areas of biological colonization which have a low impact on the preservation of the artifact. In particular, water percolation affects the external walls of Tomb II, where the areas partly protected by the rock walls shows its effects (fig. 5).

Another degradation process found in all hypogea and of a greatly significant magnitude is the ongoing surface erosion that is causing delamination and spalling, especially on external walls, with a progressive increase in roughness and the formation of micro-cavities where surface sediments and biological patinas spread. The spalling process is also found on the surfaces inside the hypogea (Tomb II, fig. 7), where stains, surface sediments and limited areas of biological colonisation are found, generally limited to the surfaces affected by the presence of infiltration or stagnation water. The interior walls and the intrados of the roofs are also characterised by erosion due to alveolarization and pitting. Finally, the tombs are home to a dense colony of bats.

Stability and safety

The structural layout is affected by the presence of major cracks, limited thicknesses of partitions and pillars, risk of detachment and collapse. To cope with the risks resulting from it, Tombs I and II were secured by means of wooden supporting beams (fig. 8).
In the necropolis area, landslide debris is detected, in particular basalt blocks collapsed from the top of the cliff, in a quiescent or relict condition. On the other hand, the rock-bed where the *domus de janas* are excavated and the aquifer deposits are subject to surface landslides and runoff by surface waters close to the watershed.
The area has a hydrogeological hazard level from medium to high, as a result of the geomorphological

fig. 5 - Examples of decay and degradation taking place in the hypogea, view of Tomb II.

fig. 6 - Erosion including spalling, percolation and formation of biological patinas in Tomb I.

characteristics of the site. The Municipality of Sedilo does not report any hydrogeological (hydraulic and geomorphological) hazard zones.

Landscape preservation

In terms of of landscape values and integrity preservation, no obstacles are reported . Indeed, the site is located in an untouched natural environment characterised by the presence of a lush native spontaneous vegetation, including weeds and shrubs.

Accessibility for conservation

The integrity and pristine nature of the landscape where the necropolis is located, affects its accessibility by staff and equipment for tomb management and maintenance operations. The complex hypogeal

fig. 7 - Spalling process of the surface decorated with paintings. including the detachments in Tomb II.

fig. 8 - Supporting system installed inside Tomb II.

nature of the tombs also makes these operations more difficult, for which careful planning and design is necessary.

Conservation operations

The site needs a significant and coordinated restoration operation, aimed at solving the issues associated with structural and geotechnical instability and at preserving the integrity of the tomb chambers. First of all, monitoring of static conditions must be performed in order to act promptly if they suddenly deteriorate. Tree species, having root systems infiltrating the rock walls of the burials, are a concurrent cause of the ongoing fracturing processes will have to be removed. After manual pruning, biocide treatment and plant devitalization should be carried out. The support beams installed inside the chambers of Tombs I and II should be replaced right away with new elements. Regarding the interior surfaces, localized sealing and bonding is recommended for the stone material affected by cracks and spalling, after an overall removal of biological patinas and sediments by spraying biocide products.

ILOI/ISPILUNCAS
Reference to summary fiches

Degradation reported:

- ☑ Surface decay and weathering
- ☑ Flooding, percolation and runoff events
- ☐ Gaps
- ☑ Structural and/or geotechnical instability and criticality
- ☑ Large infesting plants
- ☐ Degradation of anthropogenic origin from historical or recent use

Suggested operations:

- ☑ Removal/containment of infesting plant
- ☑ Removal of patinas and encrustations
- ☑ Water regulation
- ☑ Consolidations of detached parts
- ☑ Bonding and grouting
- ☐ Integration of gaps/partial reconstructions of missing parts
- ☐ Covers
- ☐ Isolation in a controlled environment
- ☑ Hydrogeological risk mitigation operations

019.
NECROPOLIS OF MANDRAS (MRANGIAS)

Ardauli

strada Mandras, 09081 Ardauli OR

3XP2+3G Ardauli, Oristano Province

The Necropolis of Madras is located on top of a *cuesta*, in central Sardinia, near the town of Ardauli (OR), in the historical region of Barigadu, and it includes three tombs excavated on two volcanic tuff outcrops of two different units (fig. 1).

Stone materials and finishings

For the area where the necropolis rests, the geologic map of Capu-Mannu Macomer shows lower ignimbritic rocks dating back to the Plio-Quaternary volcanic cycle, consisting of yellowish or pinkish ignimbrites, generally welded, arranged in overlying banks, sometimes rich in xenoliths (fig. 2).
The tombs are in a good state of conservation, with limited deterioration attributable to the presence of infiltration, runoff, and stagnation water. The restoration works recently conducted (2020) solved most of the conservation issues, seeking the restoration of the decorated surfaces through the removal of earthy and superficial sediments, pruning and the devitalization of root systems, the removal of biological patinas, the sealing and bonding of the detached portions, and the reduction of water infiltration through the cracks in the vault. These operations have significantly limited the development of the ongoing phenomena. However, some forms of degradation have been

fig. 1 - Overall view of the necropolis.

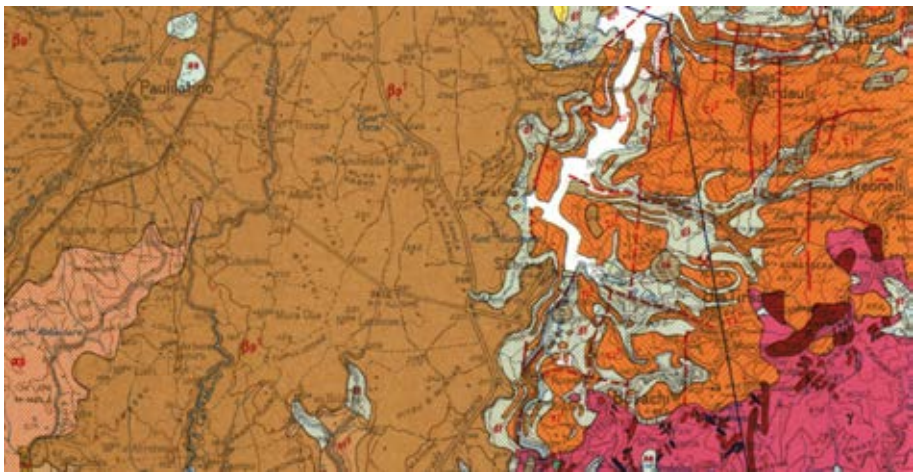


fig. 2 - Geological map of central-western Sardinia, folio 205-206, Capu Mannu-Macomer, scale 1:100,000.

fig. 3 - Example of the decay and pathologies occurring in Tomb 1.

triggered once more: infiltration by new root systems that allowed water seepage, the growth of efflorescence and the spread of biological patinas in two areas and near the level of stagnant water, along with chromatic alteration (fig. 3). Some mortar blocks laid during the restorations, used to prevent water runoff from the hatch, should be restored. However, these phenomena do not affect the integrity of the monument.

Stability and safety

The visible diffuse cracks generally result from the rock mass origin and do not currently appear detrimental to static and geotechnical stability, despite the presence of some passing cracks that have already been subject to operation (fig. 4).
Due to its geomorphology, the site has a minor landslide hazard level (fig. 5). However, the Municipality of Ardauli does not have any hydrogeological (hydraulic and geomorphological) hazard zoning.

Landscape preservation

The site is part of a a naturalistic hilly environment where no disturbing element can be seen. Landscape values are preserved and are characterized by the presence of native shrub and tree species, such as holm oaks, cork oaks and other typical plants of the Mediterranean maquis.

Accessibility for conservation

Access for people and small vehicles for management and maintenance operations is limited near the rocky outcrop that houses the tombs, both because the monument is located in

fig. 4 - Example of ongoing pathologies in Tomb I. The crack and the growth of biological colonization due to water infiltration is highlighted.

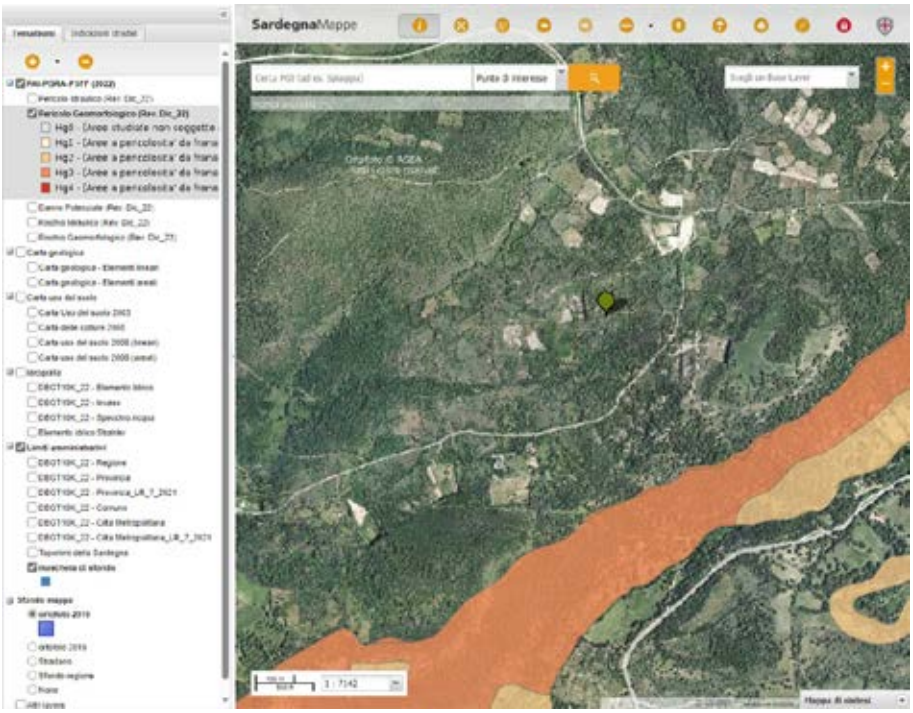


fig. 5 - Hazard mapping (source: PAI Sardegna).

fig. 6 - Rocky wall with evidence of devitalized stumps referring to the trees removed during restoration works.

the countryside and because of the presence of vegetation. The small size of the accesses to the hypogeal environments also requires utmost caution while maintenance or restoration operators work.

Conservation operations

Monitoring of cracks and lesions that reappeared after the restoration of Tomb I, which are currently of no concern, is recommended in order to identify any recurrence of ongoing events in a timely manner. Regularly checking wall surfaces is recommended, especially where decorations are found, in order to monitor the effectiveness and durability of the actions taken during the 2020 restoration campaign, with particular reference to surface cleaning and consolidation treatments. To this end, it would be useful to perform new chemical-physical analyses on a limited sample of previously treated material, to be compared with those performed as part of the 2020 restoration, documented and disseminated on scientific papers. Such a test could provide remarkably useful hints for other actions to be taken in similar contexts.

In order to control any regrowth of weed vegetation, periodic mowing and weeding operations of the area where the necropolis was built, are suggested. These operations should be conducted in a controlled manner, while also monitoring the outcomes of the afore-mentioned root system devitalization operations (fig. 6).

MADRAS
Reference to summary fiches

Degradation reported:

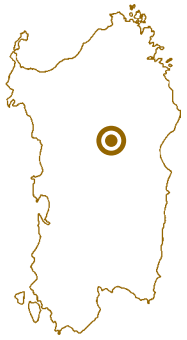
- ☑ Surface decay and weathering
- ☑ Flooding, percolation and runoff events
- ☐ Gaps
- ☐ Structural and/or geotechnical instability and criticality
- ☐ Large infesting plants
- ☐ Degradation of anthropogenic origin from historical or recent use

Suggested operations:

- ☐ Removal/containment of infesting plant
- ☐ Removal of patinas and encrustations
- ☑ Water regulation
- ☐ Consolidations of detached parts
- ☑ Bonding and grouting
- ☐ Integration of gaps/partial reconstructions of missing parts
- ☐ Covers
- ☐ Isolation in a controlled environment
- ☐ Hydrogeological risk mitigation operations

020. NECROPOLIS OF BRODU

Oniferi



85CF+V9, 08020 Oniferi NU
85CF+R4 Oniferi, Nuoro Province

The Necropolis of Brodu is located in central Sardinia, near the town of Oniferi (NU), and develops on the gentle *cuesta* in a volcanic tuff substrate, a short distance from the top of the hill, where the remains of the homonymous nuraghe are located. The site currently consists of four multi-chamber tombs which are perpendicular to the rock face where the entrances to the hypogea open (fig. 1).

Stone materials and finishings

The geological map of Nuoro shows that the area where the necropolis is located, features rocks which are part of the pre-Helvetian volcanic complex, characterized by alternating reddish lavas and ignimbrites, generally welded with rhyolitic chemism with an eutaxitic structure (fig. 2).
The archaeological complex is in a good state of preservation, affected by minor pathologies all of which are connected to weathering. The external stone surfaces are affected by erosion characterized by decomposition and alveolization. The latter has favored the encrustation of insect nests. Chromatic changes, surface sediments, moss and lichen biological patinas, and, locally, weeds favored by the presence of rainwater and groundwater, may also be seen. Inside them, the hypogea are affected by biological colonization and surface deposits, varying in texture, color, and grip to the substrate, and salt efflorescence, especially in the upper portions of the walls and the intrados of the ceiling (Tomb IV) (figs. 3-6). The stone material also shows spalling and some cracks, which help trigger and develop degradation.

fig. 1 - Overall view of part of the necropolis.

fig. 2 - Geological map of central-northern Sardinia, folio 207, Nuoro, scale 1:100,000.

figs. 35 - Examples of current pathologies.

fig. 6 - Spalling at the entrance to Tomb IV.

fig. 7 - Detail of the ongoing cracking pattern of Tomb III.

Stability and safety

The hypogea show a crack pattern resulting from the rock mass formation processes, that is currently not detrimental to static safety and geotechnical stability (fig. 7).
The Municipality of Oniferi does not have any hydrogeological (hydraulic and geomorphological) risk zoning.

Landscape preservation

The necropolis is located in an environment that keeps significant landscape values almost untouched. Indeed, the territory where the tombs are located consists of the slopes of a trachytic hill covered with Mediterranean maquis native vegetation and dirt roads. The only anthropogenic elements to be noted are the presence of the SP47 road, the rammed-earth access road (private road) and the fencing of the archaeological area consisting of metal poles and net, which do not cause any visual disturbance in the perception of the entire area.

Accessibility for conservation

The area is easily accessible by people and small vehicles for site management and maintenance operations, but it is limited near the rock outcrop and, close to the hypogea, it is characterized by a variety of entrances which are often small and of variable height.

Conservation operations

With reference to the conservation of the site, the periodic mowing of herbaceous vegetation in the area that hosts the necropolis is recommended, but above all, the removal of the weedy shrubs growing in the proximity of the hypogea (fig. 9), providing for their cutting and the devitalization of their root systems. As for the surfaces inside the hypogea, especially those decorated with pictorial and carved motifs, cleaning and the removal of biological

fig. 8 - Tomb III as part of the landscape of reference.

fig. 9 - Presence of infesting shrubs to be removed by cutting and devitalising the root systems.

patinas using biocide applications is suggested. The encrustations caused by insect nests should be carefully removed.
As for the cracks and lesions, although at present they do not appear detrimental to the conservation of the entire necropolis, their regular monitoring is recommended to check any further development, and those responsible for rainwater infiltration should be sealed.

BRODU
Reference to summary fiches

Degradation reported:

- ☑ Surface decay and weathering
- ☑ Flooding, percolation and runoff events
- ☐ Gaps
- ☐ Structural and/or geotechnical instability and criticality
- ☑ Large infesting plants
- ☐ Degradation of anthropogenic origin from historical or recent use

Suggested operations:

- ☑ Removal/containment of infesting plant
- ☑ Removal of patinas and encrustations
- ☑ Water regulation
- ☐ Consolidations of detached parts
- ☑ Bonding and grouting
- ☐ Integration of gaps/partial reconstructions of missing parts
- ☐ Covers
- ☐ Isolation in a controlled environment
- ☐ Hydrogeological risk mitigation operations

021.
NECROPOLIS OF ISTEVÉNE

Mamoiada

08024 Mamoiada NU

57VR+CR Mamoiada, Nuoro Province

The necropolis of Istevéne is developed on the low slope of a high elevation, sloping towards the Istevéne basin and ending on the valley floor crossed by Rio Conca 'e Bachis in the Ollolai's Barbagia, near the village of Mamoiada (NU). To date, the necropolis includes six single-chamber and multi-chamber hypogeal tombs. Particularly unique are those dug inside erratic boulders, such as Tomb IV (fig. 1).

Stone materials and finishings

The geological map of Nuoro shows that the area where the necropolis lies features granitoid formations, part of the Orgosolo intrusive rock unit (fig. 2). Specifically, these are moderately equigranular, medium-grained gray monzogranitic granodiorites.

The stone material where the tombs are carved is, by its nature, particularly resistant to weathering. Therefore, weathering processes, such as erosion and surface disintegration, are very limited. On the outside, the presence of moss and lichen biological patinas, surface sediments and infesting vegetation is reported. There is also evidence of color changes related to the presence of rainwater and its flow along the walls of the rocky bank (figs. 3, 5). Similar changes can also be found inside the hypogea, where saline efflorescence

fig. 1 - Overall view of the necropolis.

fig. 2 - Geological map of central-northern Sardinia, folio 207, Nuoro, scale 1:100,000.

fig. 3/4 - Example of the decay and pathologies occurring in Tomb III.

fig. 5/6 - Examples of ongoing alterations and pathologies in place in Tomb IV, carved inside an erratic boulder, located at the foot of the slope and having the entrance at the ground level.

and biological colonization (figs. 4, 6) are reported, extremely visible in Tomb III (fig. 4).

Stability and safety

The archaeological complex is in a good state of conservation. However, a critical situation should be reported with regard to Tomb III, that is affected by a significant cracking pattern resulting from the movements of the entire slope, causing secondary cracks in the built/sculpted elements, subject to shear actions caused by the uneven sliding of the slope. In particular, the central pillar is affected by a deep cracks, possibly providing evidence to the downward sliding of the rock complex, subject to active dislocation movement (fig. 7).
The necropolis area falls within PAI zoning with a medium geomorphological hazard level (Hg2) (fig. 8).

Landscape preservation

The necropolis is part of an almost untouched landscape, featuring the naturalistic elements typical of the Barbagia region, such as granite outcrops and lush woodland, including holm oaks and other native tree species. The elements introduced for protection and visitation are fully compatible with the landscape values of the monument.

Accessibility for conservation

While the accessibility to the site is suitable for personnel and small vehicles for both management and maintenance operations, access to the hypogea is limited, both due to

the inherent nature of the rocky slope, characterized in some steep sections, and to the shape and lay-out of the tombs.

Conservation operations

With regard to site conservation, regular mowing and weeding of the area that hosts the necropolis are recommended, but especially the removal of the tree growing directly over the tombs, since the infiltration of their root systems may potentially fracture the rock. Sealing and consolidation of existing cracks and lesions is also recommended, for which continuous monitoring will have to be conducted, with particular regard to Tomb III.
Cleaning and removing patina and efflorescence from the interior surfaces will also have to be planned.
Regarding Tomb IV, reintegrating the gaps generated by erosion should be considered, in order to control the seepage of rainwater inside the chamber more effectively.

Fig.7 - Cracks affecting the pillar inside Tomb III, decorated with a horn-shaped high relief motif.

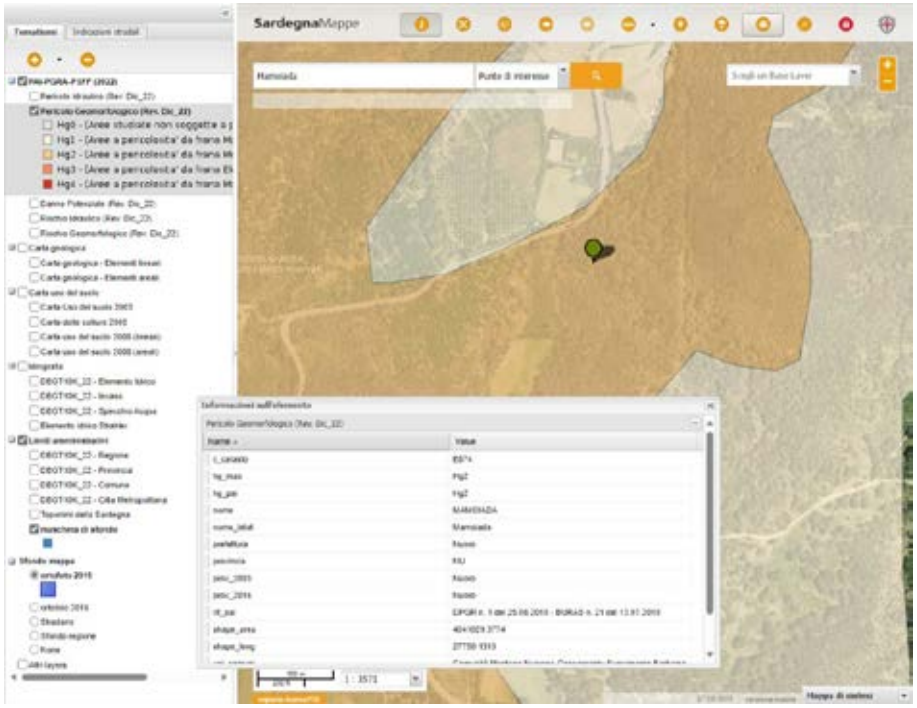


fig. 8 - Geomorphological hazard mapping (source: PAI Sardegna).

ISTEVÉNE
Reference to summary fiches

Degradation reported:

- ☑ Surface decay and weathering
- ☑ Flooding, percolation and runoff events
- ☑ Gaps
- ☑ Structural and/or geotechnical instability and criticality
- ☑ Large infesting plants
- ☐ Degradation of anthropogenic origin from historical or recent use

Suggested operations:

- ☑ Removal/containment of infesting plant
- ☑ Removal of patinas and encrustations
- ☑ Water regulation
- ☐ Consolidations of detached parts
- ☑ Bonding and grouting
- ☑ Integration of gaps/partial reconstructions of missing parts
- ☐ Covers
- ☐ Isolation in a controlled environment
- ☑ Hydrogeological risk mitigation operations

022.
GROTTA CORBEDDU

Oliena

Str. per Valle di Lanaittu, 08025 Oliena NU
7F4P+5H Oliena, Nuoro Province

Grotta Corbeddu is a karstic cavity that develops longitudinally for about 150 m, located on the middle slope of the Supramonte limestone massif, bordering the Lanaitho valley to the west, in the territory of the municipality of Oliena (NU) (fig. 1). The karstic complex includes four chambers; special attention is paid to the two largest chamber, that is, Chamber 1 and 2.

Stone materials and finishings

The geological map in the Dorgali shows that the site has a mostly unstratified organogenic limestones (figs. 2-3).
The overall state of conservation is excellent (fig. 4). Forms of alteration, especially inside the tombs, are basically those related to the nature of the natural limestone monument, and its reuse over time. The surfaces are subject to spalling, surface sediments of varying nature and thickness, and processes related to the presence of groundwater, such as traces of moisture and biodeteriogens. Evidence of anthropogenic degradation (vandalism) is also reported (fig. 5).

Stability and safety

Regarding structural-geotechnical aspects, the general picture shows widespread collapse instability at

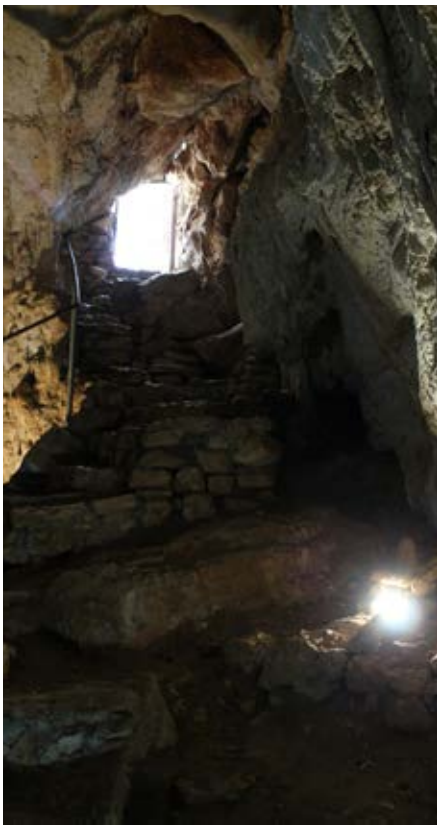


fig. 1 - Detail of the stone staircase that leads to the cave.

fig. 2 - Geological map of central-northern Sardinia, folio 208, Dorgali, scale 1:100,000.

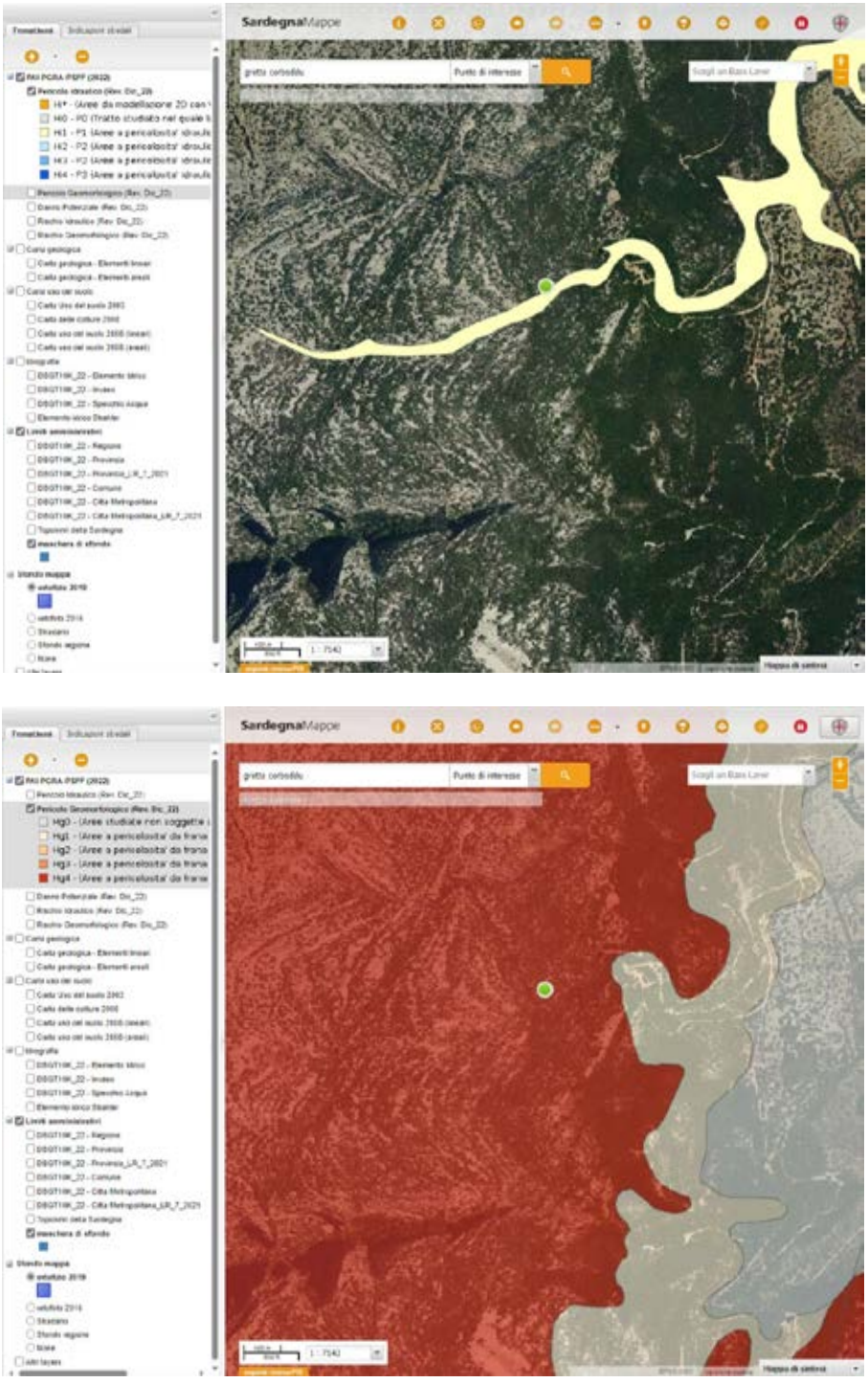
fig. 3 - Geological map of central-northern Sardinia, folio 208, Dorgali, Section.

the cave entrance and high geomorphological hazard level in the access route due to the presence of large volumes of landslide debris. According to PAI Sardegna, the entire slope is exposed to a very high landslide hazard level (Hg4) due to the coexistence of several unfavorable geomorphological elements (fig. 6).
The PAI also identifies a moderate hydraulic hazard zone (HI1) at the watershed near the cave entrance (fig. 7).
With the exception of the entrance, that is sealed by quiescent landslide debris, stability within the natural monument does not currently appear to be affected.

Landscape preservation

The site is located in a context of high landscape and environmental value, bordering the wide valley of Lanaitho and the Supramonte plateau, and characterized by

figs. 4/5 - General interior view of the cave and excavation areas, and details of vandalism on the surfaces.



figs. 6/7 - Geomorphological hazard mapping (source PAI Sardegna).

several springs, native forests and land suitable for agriculture and livestock farming. The limited anthropogenic elements introduced to support visitor reception and the use of the many hiking trails throughout the area, are fully compatible with the monument's landscape values.

Accessibility for conservation

The monument appears to be easily accessible by people and small vehicles for management and maintenance operations. However, the hypogeal cavity can be accessed by a small opening equipped with a gate and rock steps which limit access to larger equipment and tools.

Conservation operations

The current state of conservation suggests regular crack monitoring in the outer portions of the rocky ridge. The removal by hand of rock fragments and securing the entrance to the cave are recommended. The stone surfaces affected by the paintings should undergo cleaning, with and vandalic writing removed.

GROTTA CORBEDDU
Reference to summary fiches

Degradation reported:

- ☑ Surface decay and weathering
- ☐ Flooding, percolation and runoff events
- ☐ Gaps
- ☑ Structural and/or geotechnical instability and criticality
- ☐ Large infesting plants
- ☑ Degradation of anthropogenic origin from historical or recent use

Suggested operations:

- ☐ Removal/containment of infesting plant
- ☑ Removal of patinas and encrustations
- ☐ Water regulation
- ☐ Consolidations of detached parts
- ☐ Bonding and grouting
- ☐ Integration of gaps/partial reconstructions of missing parts
- ☐ Covers
- ☐ Isolation in a controlled environment
- ☑ Hydrogeological risk mitigation operations

023.
MENHIR OF CUCCURU TUNDU

Villa Sant'Antonio

09080 Villa Sant'Antonio OR

VWG2+8G Villa Sant'Antonio, Oristano Province

The menhir of Cuccuru Tundu rises on the summit of the homonymous hill, which is characterized by pastures and Mediterranean scrubland with volcanite outcrops (fig. 1). The monument ceiling is currently missing and resting in the immediate vicinity. The menhir was probably related to the Neolithic settlement a few hundred meters away, that is, other menhirs, the Settlement of Monte Padrillonis and the *domus de janas* necropolis also known as "Is Forrus".

fig. 1 - The menhir in its landscape of reference.

Stone materials and finishings

The geologic map of Capo San Marco-Oristano shows that the area where the monument lies features rock formations which are part of the Oligo-Miocene volcanic cluster consisting of pomiceous-cineritic tuffs and ignimbrites, and rock formations which are part of the late Hercynian magmatic cluster characterized by granites, generally medium-grained and sometimes associated with small patches of migmatites, microgranites and aplitic granites (fig. 2).
Specifically, the monolith is emplaced on pyroclastic flow deposits including rhyolitic chemism (Ruinas cluster) and consists of the same rock found at the site.

fig. 2 - Geological map of western Sardinia, folio 216-217, Capo San Marco-Oristano, scale 1:100,000.

The monolith necropolis is in an excellent state of conservation. The stone surface is smooth, and the forms of degradation are mainly historical, including some detachments. The main changes included color change, shallow spalling erosion, superficial sediments, and bi-

ological lichen colonization, factors which do not affect the conservation and integrity of the monument (figs. 3-4).

figs. 3/4 - Detail of the summit portion of the menhir and the stone surface affected by spalling.

Stability and safety

No crack is visible. Previous detachment, exfoliation and spalling, historically and partially in place, do not appear detrimental to the conservation and maintenance of the monolith in orthostatic position.

Regarding geotechnical aspects, the monolith appears to be emplaced in an outcrop at a depth suitable to ensure its stability. The monolith is located in a geomorphological context such that it does not result in hazardous conditions for landslide risk (fig. 5). However, the Municipality of Villa Sant'Antonio does not have any hydrogeological (hydraulic and geomorphological) risk zoning.

Landscape preservation

The site is part of a rural environment where no disturbing element can be seen. Landscape integrity values are preserved and are characterized by the presence of native shrub and tree species typical of the Mediterranean scrub alternating with areas encircled by traditional dry-laid stone block walls.

Accessibility for conservation

The site appears to be easily accessible by personnel and small vehicles intended for site management and maintenance operations. However, the site is not included in a dedicated museum tour as it is located inside a private property.

Conservation operations

Regarding conservation aspects, no particular issues are reported. Regular clearing from herbaceous plants, a mild cleaning of surfaces and the monitoring of structural aspects, with any necessary sealing of limited spalling, are suggested.

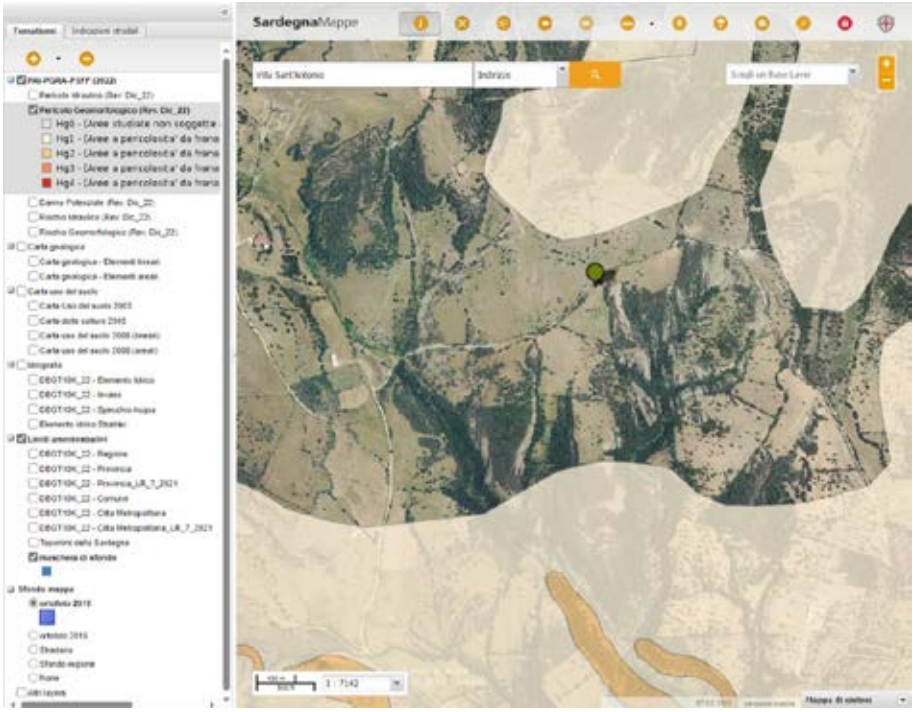


fig. 5 - Geomorphological hazard mapping (source: PAI Sardegna).

CUCCURU TUNDU
Reference to summary fiches

Degradation reported:

- ☑ Surface decay and weathering
- ☐ Flooding, percolation and runoff events
- ☐ Gaps
- ☐ Structural and/or geotechnical instability and criticality
- ☐ Large infesting plants
- ☐ Degradation of anthropogenic origin from historical or recent use

Suggested operations:

- ☐ Removal/containment of infesting plant
- ☑ Removal of patinas and encrustations
- ☐ Water regulation
- ☐ Consolidations of detached parts
- ☐ Bonding and grouting
- ☐ Integration of gaps/partial reconstructions of missing parts
- ☐ Covers
- ☐ Isolation in a controlled environment
- ☐ Hydrogeological risk mitigation operations

024.
SHELTER OF SU FORRU DE IS SINZURREDDUS AND THE STONE TOOL WORKSHOPS OF SENNIXEDDU

Pau

09090 Pau OR

RQ4G+PF Pau, Oristano Province

The two sites are located in the Municipality of Pau (OR), on the eastern slope of the Monte Arci ridge.
The Stone Tool Workshops of Sennixeddu are characterized by the presence of imposing beds of obsidian chips on the ground and along some of the mountain paths, dating back to the prehistoric period. The natural shelter of "Su Forru de is Sinzurreddus" rises 500 m from the Stone Tool Workshops and consists of a circular chamber of about 20 square meters (fig. 1). A male-only settlement dedicated to the extraction and processing of obsidian is found in this site, several remains of which have been found.

fig. 1 - The shelter under the rock.

fig. 2 - Geological map of western Sardinia, folio 216-217, Capo San Marco-Oristano, scale 1:100,000.

Stone materials and finishings

From a geological point of view, Senixeddu is identified by the geological map of "Capo San Marco - Oristano" (scale 1:100,000) as an eluvium-debris slope complex, while the shelter is located in the andesite formations characterized by a slab-like flow in a dome-like structure (figs. 2-3).
With reference to the Stone Tool Workshops, there is no evidence of degradation. The only hazard in the medium and long term, could be the destruction of the archaeological findings due to earthy sediments and vegetation cover. However, the Sennixeddu trail is under permanent maintenance and subject to protection. As for the shelter, which is in a poor state of conservation, the most worrying degradation factor is the disintegration of stone material, with progressive detachments of significant portions of walls and floors (fig. 4). Ongoing pathologies, such as surface sediments and biological patina are of lesser magnitude and severity.
shelter mediocre state of conservation.

Stability and safety

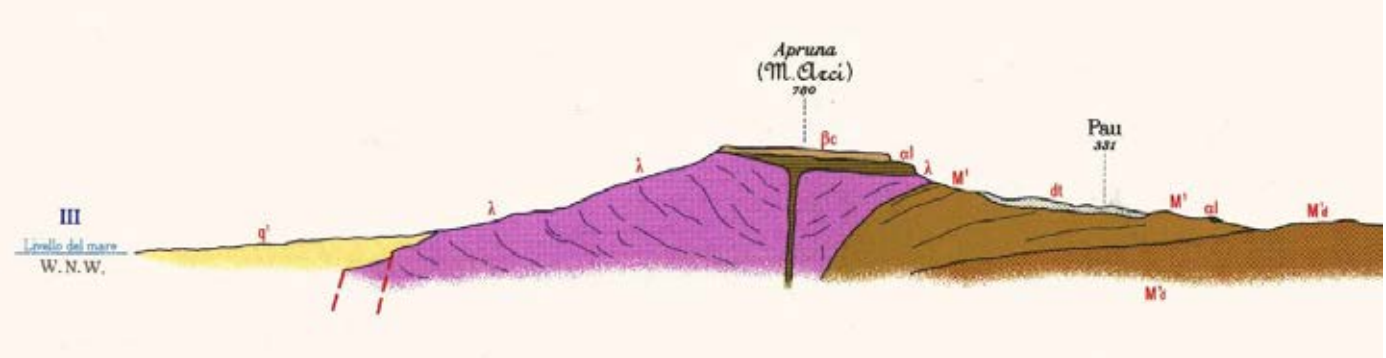


fig. 3 - Geological map of western Sardinia, folio 216-217, Capo San Marco-Oristano, Section.

To date, the site is completely the result of the geological activity, and it has some major critical issues regarding geomorphological risks, including significant decay and ongoing cracks, especially near the chamber entrance (fig. 5). The site is partially covered with temporary structures made of metal and transparent corrugated plastic sheets, with wooden walkways, in some cases close to rotting, a remnant of the excavation campaigns (fig. 6). Both the path and the shelter fall in an area of high geomorphological hazard considering the site geological characteristics (fig. 7).

fig. 4 - Decay due to rock fracturing.

fig. 5 - Geomorphological critical issues of the shelter.

Landscape preservation

The Pau archaeological area is included within the Monte Arci regional park in an environmental context that preserves naturalistic and landscape values, such as obsidian deposits and large green fields with different native tree and shrubs, depending on the various altitudes characterizing the entire area, such as holm oaks, downy oaks, cork oaks etc. The shelter ex-

fig. 6 - Wooden structures in the excavation site leading to the shelter.

fig. 7 - Wooden structures in the excavation site leading to the shelter.

cavation area features temporary protective structures contrary to the landscape values of the Park. However, they are elements that will be reused as part of the continuing excavation campaigns (fig. 8).

Accessibility for conservation

The workshop area appears to be accessible as it is served by small paths. The shelter appears to be accessible by the staff of the "FoReSTAS" Regional Agency for the management and maintenance operations of the entire site.

Conservation operations

Regularly performing maintenance on and clearing the infesting vegetation in the area accommodating the obsidian paths is recommended. The current state of conservation of the shelter, on the other hand, suggests that preliminary plant clearing operations of the rocky slopes that accommodate the hypogea and crack monitoring, especially near the access to the chamber, are suggested. The same provisional works, which are already in place and were performed during previous excavation activities, should be replaced in the damaged portions and redesigned for long-term safety. The interior of the shelter requires surface cleaning and consolidation, after studying the cracks and the detachment of stone material, closely related to the very nature of the rock-bed where the shelter is hosted.

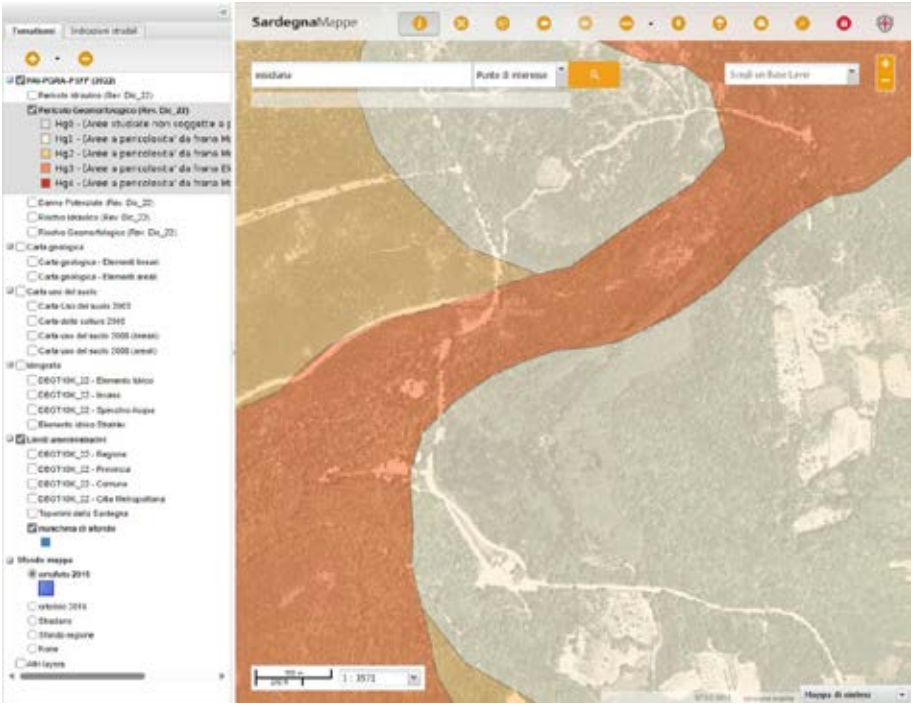


fig. 8 - Geomorphological hazard mapping (source: PAI Sardegna).

SHELTER OF SU FORRU DE IS SINZURREDDUS
Reference to summary fiches

Degradation reported:

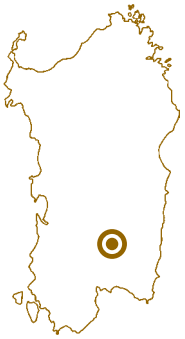
- ☑ Surface decay and weathering
- ☑ Flooding, percolation and runoff events
- ☑ Gaps
- ☑ Structural and/or geotechnical instability and criticality
- ☑ Large infesting plants
- ☑ Degradation of anthropogenic origin from historical or recent use

Suggested operations:

- ☑ Removal/containment of infesting plant
- ☑ Removal of patinas and encrustations
- ☑ Water regulation
- ☑ Consolidations of detached parts
- ☑ Bonding and grouting
- ☑ Integration of gaps/partial reconstructions of missing parts
- ☑ Covers
- ☐ Isolation in a controlled environment
- ☑ Hydrogeological risk mitigation operations

025.
ARCHAEOLOGICAL PARK OF PRANU MUTTEDDU

Goni



SP23, 09040 Goni SU

H799+4J Goni, Sud Sardegna Province

The The site consists of a megalithic complex and *domus de janas* located on the top and the edge of a peneplain covered by cork oak trees and Mediterranean scrub a few kilometers from the town of Goni (CA).
The archaeological complex consists of sixty protoanthropomorphic menhirs arranged in different ways in the area in small clusters and lineups, and various types of tombs.

Stone materials and finishings

Geologically, the Pranu Mutteddu site is identified on the "Mandas" geological map (scale 1:100,000) as a basal conglomerate of gravel and very-to-slightly cemented sand. At the site, the rock is very compact, difficult to work and with clasts included in the conglomerate with increasing grain size as depth increases. The same type of rock, quarried near the cliff on the northern edge of the peneplain, was used to build artifacts.

The lithological characteristics of the stone material used for the tombs affect the state of conservation of the entire necropolis, which is excellent overall. Surface degradation is only due toweathering. Therefore, weak erosive phenomena, surface sediments and biological patinas are present. As for Tomb II, in addition to the above-mentioned pathologies, disintegration, cracks, chromatic changes, moisture and weed root systems, especially near the lower parts of the artifacts, are worth mentioning.

fig. 1 - General view of Tomb II.

fig. 2 - Geological map of south-eastern Sardinia, folio 226, Madras, scale 1:100,000.

Stability and safety

Regarding static instability, some critical issues are reported concerning the front slab that leads to the

figs. 3/4 - Examples decay and degradation in Tomb II.

right side chamber of Tomb II, at present partitioned by three ashlars separated by passing cracks. The element, although damaged, appears to be still in an orthostatic position and in equilibrium, although its conditions could become critical in case of uncaring visitation or prolonged weathering or the effects of ongoing invading vegetation, which in the long run could trigger additional stresses and consequent detachments.
The site is not currently exposed to significant geomorphologic hazard with the exception of the *domus de janas* dug along the southeastern cliff of the peneplain, which show visible quiescent instability connected to the lateral water spills.

fig. 5 - Fractures highlighted in Tomb II.

In its complexity, the site currently show insignificant geomorphological hazard levels for built structures, with the exception of the peneplain edge areas where collapses, overturning and lateral sliding are possible. At present, the Municipality of Goni does not show any hydrogeological (hydraulic and geomorphological) risk zoning.

Landscape preservation

In terms of value preservation and landscape integrity, there is no specific disturbing element: as a matter of fact, the site is located on a rock plateau, covered by typical Mediterranean scrub and woody vegetation, characterized by a strong naturalistic value. The internal park spaces, which can be reached by dedicated dirt roads or grassy paths, are equipped with visitor services, such as canopies and wooden seats, which blend well with the natural space.

Accessibility for conservation

The park is fully accessible by people and vehicles for various operations and maintenance, a factor that facilitates the care and surveillance of the tombs, but more importantly, allows for easy planning and any restoration work that may be necessary in the future.

Conservation operations

The archaeological complex is currently manned, musealized and subject to routine maintenance. However, regular inspections and monitoring activities should be carried out in order to assess the cracks and the erosion levels of the stone material, including providing limited operations to seal gaps and controlled surface cleaning in areas affected by sediments, biological patinas and weed infestation. In particular, a consolidation operation and the sealing of the fissures affecting the front slab leading to the right chamber of Tomb II could be evaluated, as well as small measures to allow rainwater runoff, thus limiting stagnation.

PRANU MUTTEDDU
Reference to detailed info-sheets

Degradation reported:

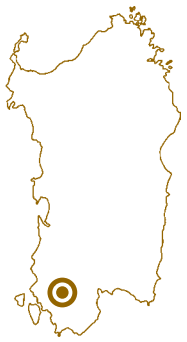
- ☑ Surface decay and weathering
- ☑ Flooding, percolation and runoff events
- ☐ Gaps
- ☑ Structural and/or geotechnical instability and criticality
- ☐ Large infesting plants
- ☐ Degradation of anthropogenic origin from historical or recent use

Suggested operations:

- ☐ Removal/containment of infesting plant
- ☑ Removal of patinas and encrustations
- ☑ Water regulation
- ☐ Consolidations of detached parts
- ☑ Bonding and grouting
- ☐ Integration of gaps/partial reconstructions of missing parts
- ☐ Covers
- ☐ Isolation in a controlled environment
- ☑ Hydrogeological risk mitigation operations

026.
NECROPOLIS OF MONTESSU

Villaperuccio



09010 Villaperuccio SU

4MJC+CJ Villaperuccio, Sud Sardegna Province

The Necropolis of Montessu is an archaeological complex built in an environmental context reminiscent of a natural volcanic tuff amphitheater largely covered by vegetation, located in the Municipality of Villaperuccio, in the Province of Sud Sardegna. The necropolis consists of thirty-five hypogeal burials, of various types and complexity level, divided into four groups. There are single- and multi-chamber hypogea with pit access or horizontal development, accessed or not by a *dromos* and with flat or semi-dome roofing.

fig. 1 - General view of the necropolis.

Stone materials and finishings

For the Montessu necropolis, the geological map shows rhyolite outcrops (indicated on the map by the outdated name of liparites). They are pyroclastic flow sediments with non-welded to welded, purplish-gray pinkish-gray rhyolite chemism with eutassitic texture and vitroclastic structure (Monte Crobu rhyolites) topped by pyroclastic fall deposits in the upper part of the slope (fig. 2)

fig. 2 - Geological map of southwestern Sardinia, sheet 233, Carbonia, scale 1:100,000.

Overall, the necropolis is in an excellent state of preservation with mostly historicized forms of decay that do not substantially affect the integrity of the entire complex. In particular, the stone surfaces are subject to the action of atmospheric and environmental agents that have resulted in the establishment of erosive phenomena, mainly alveolization and pitting. Externally, they are affected by surface deposits, efflorescence and biological colonization, to which natural color changes are added (figs. 3-4). Inside the cavities, there are pathologies related to the presence of infiltration and stagnation water, such as the presence of efflorescence and staining, but also biological proliferation and deposits on the surfaces, including near the wall

figs. 3/4 - Example of the pathologies occurring in Tomb II.

decorations. Lesions and cracks, related to the disintegration of the stone material, are also present.

Stability and safety

Regardless of the historicized decay, the necropolis shows overall low levels of degradation, except for some critical geotechnical conditions, such as significant geomorphological hazard levels due to the collapse, overturning and sliding of blocks from the wall behind Tomb II and Tomb XXXIV, whose state of activity must be assessed through an appropriate monitoring system. The cracks reported are mainly related to the gaps in the rock mass and broader dynamics of geotechnical nature that appear to be not detrimental to stability at present (fig. 5).

Other forms of disruption involve the parts to the N of the amphitheater (where tombs 14 to 23 are located) and to the NW (tombs 24 to 28). They are mainly collapses of material with poorer mechanical characteristics (cinerites) occurring in medium to loosely cohesive disintegrated and/or modified terrigenous form (pedogenesis). In this case, the collapses are active and involve excavated cavities, yet they involve small volumes of soil. The initiation of these collapses is due to removal of materials at the feet of the rock, connected to the geological profile of the rock involved, that has sub-horizontal layers more easily eroded by the wind. Also contributing to pedogenesis is the presence of plants that, in addition to their mechanical action, promote the infiltration of water and the change of rock fundamental minerals.

fig. 5 - Breakdown processes attributable to geological phenomena.

At present, the Municipality of Villaperuccio is reported not to have any hydrogeological (hydraulic and geomorphological) risk zoning. Also, with the IFFI project, defines the area as caution zone due to the presence of widespread collapses.

Landscape preservation

The necropolis is located in the slope of a volcanic rock hill untouched by anthropogenic actions except for limited operations, related to the accessibility and use of the site, compliant with the landscape values and the environmental context and the historical and symbolic character of the tombs.

Accessibility for conservation

The site appears to be easily accessible by people and small vehicles for the management and maintenance of the tombs. There are minor limitations only at some burials due to their location and small size.

Conservation operations

The site appears to be musealized,

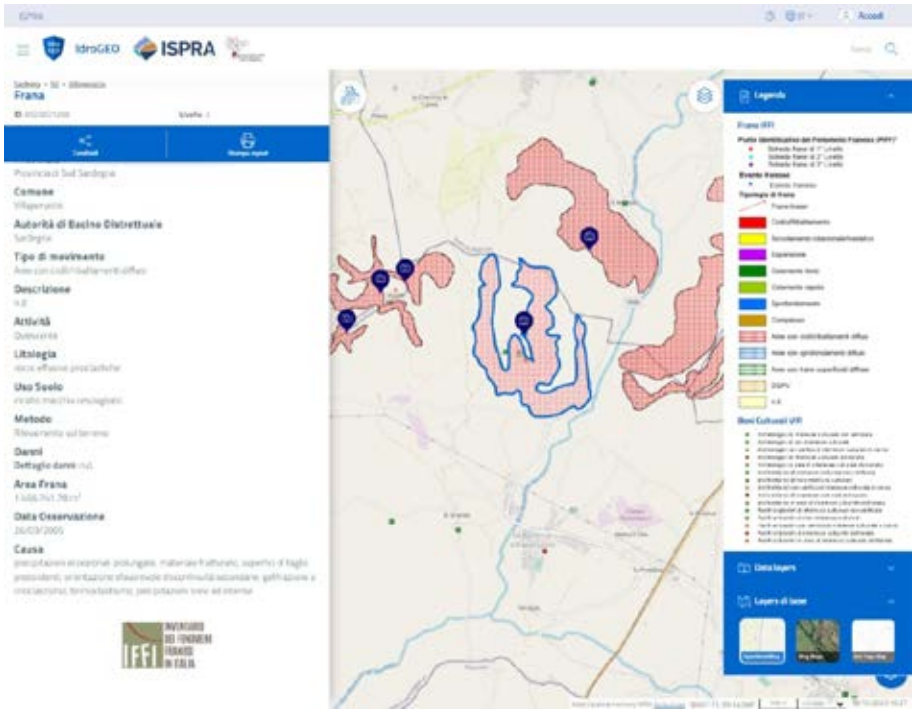


fig. 6 - IFFI project (ISPRA) including collapse monitoring.

fig. 7 - The landscape of the necropolis.

monitored and managed by a local cooperative. Considering the excellent condition of the entire necropolis, just like in the past, regular clearing of the surrounding vegetation by mowing and weeding is recommended. The most significant problem is related to the presence of water, with frequent events of flooding in many of the tombs of the necropolis. Therefore, it should be considered to implement controlled interventions of rainwater regulation, such as the implementation of mortar shaping near the hatches, sealing of cracks or the provision of runoff systems that can reduce the entry of water inside the chambers and hinder its permanence. Treatment of the decorated stone surfaces in some of the tombs, which are affected by biological patinas and deposits, is also deemed necessary and will need to be removed by mild cleaning. Constant monitoring of cracks is also useful.

MONTESSU
Reference to summary fiches

Degradation reported:

- ☑ Surface decay and weathering
- ☑ Flooding, percolation and runoff events
- ☑ Gaps
- ☑ Structural and/or geotechnical instability and criticality
- ☐ Large infesting plants
- ☐ Degradation of anthropogenic origin from historical or recent use

Suggested operations:

- ☐ Removal/containment of infesting plant
- ☑ Removal of patinas and encrustations
- ☑ Water regulation
- ☐ Consolidations of detached parts
- ☐ Bonding and grouting
- ☑ Integration of gaps/partial reconstructions of missing parts
- ☑ Covers
- ☐ Isolation in a controlled environment
- ☑ Hydrogeological risk mitigation operations

4.b - Factors affecting the nominated property

This section analyses factors which may affect or threaten the universal values of the nominated property. In particular, assessments are carried out on the basis of the risk plan implemented by the relevant institutions at the national and regional level.

4.b (i) - Development pressures and management response

The nominated archaeological monuments are located in rural areas which are generally disconnected from urbanized areas or planned urbanization; therefore, they are not affected by pressures exerted by urban development. The only exceptions are the *Domus de Janas* of Orto del Beneficio Parrocchiale in Sennori (no. 8), located within the historical center of an old town, and the Necropolis of Roccia dell'Elefante in Castelsardo (no. 9), located on the edge of Anglona SS 134 state road. Both monuments are subject to specific actions aimed at their preservation and protectiono. In Sennori, it is worth emphasizing that the monument is located within a park having controlled access and, therefore, not exposed to the potential risk of urbanizationo. As for Roccia dell'Elefante, a project to move the road portion adjacent to the monument, prepared by the Azienda Nazionale Autonoma delle Strade ANAS, has already been approved by the local Superintendency, in order to preserve the monument and facilitate a more effective tourist-cultural use.
The regional territory is for the most part subject to landscape, cultural and environmental protection and safeguarding measures, which contribute to the control of the impact resulting from potential risk factors compromising the universal values for which the site is nominated, connected with territorial development.
The Autonomous Region of Sardinia approved its own instrument for territorial governance, the Regional Landscape Plan, by Resolution no. 36/7 of 5 September 2006, with the purpose of preserving, protecting, promoting and handing down to future generations the environmental, historical, cultural and settlement identity of the territory, protecting and safeguarding the cultural and natural landscape and its biodiversity, and ensuring the preservation of the territory by promoting forms of sustainable development in order to improve its quality. The regulatory framework was later revised to adjust it and make it consistency with the provisions of the National Urban Code (Legislative Decree 42/2004), in order to combine the needs of development with landscape protection and promotiono. In particular, following the analysis of the interconnections between the environmental, historical-cultural and settlement structures, the Plan defined and identified the so-called coastal landscape areas, which are areas or reference for the qualitative-landscape differences of the regional territory, as spatial planning instruments to steer conservation, reconstruction or transformation actions, recognizing in each of them the peculiarities and identity of a given place.
An analysis of the different environments shows that 10 out of the 26 sites included in the Art and Architecture in Prehistory in Sardinia, fall within the borders of 5 different landscape areas.
The Environment no. 12 Monteleone, stretching along the coast from Torre di Poglina to the cliffs of Porto Managu, south of Capo Marargiu,

fig. 4.62 - Interior general view of Grotta Corbeddu, Oliena (NU).

fig. 4.63 - Protected sites pursuant to art. 136-142 of Legislative Decree 42/2004.

fig. 4.64 - Sites awarded the landscape heritage status.

fig. 4.65- Sites included in the coastal strip.

fig. 4.66 - Sites within areas managed by the Forestas Agency.

Distribution of monuments

001 Necropolis of Anghelu Ruju, Alghero
002 Necropolis of Puttu Codinu, Villanova Monteleone
003 Necropolis of Monte Siseri or S'Incantu, Putifigari
004 Archaeological complex of Monte Baranta, Olmedo
005 Necropolis of Mesu 'e Montes, Ossi
006 Sanctuary of Monte d'Accoddi, Sassari
007 Necropolis of Su Crucifissu Mannu, Porto Torres
008 *Domus de janas* of Orto del Beneficio parrocchiale, Sennori
009 *Domus de janas* of Roccia dell'Elefante, Castelsardo
010 Necropolis of Li Muri, Arzachena
011 Petroglyph Park, Cheremule
012 Dolmen of Sa Coveccada, Mores
013 Shelter of Luzzanas, Ozieri
014 Necropolis of Sant'Andrea Priu, Bonorva
015 Necropolis of Sa Pala Larga, Bonorva
016 Necropolis of Sos Furrighesos, Anela
017 Village of Serra Linta, Sedilo
018 Necropolis of Iloi/Ispiluncas, Sedilo
019 Necropolis of Mandras/Mrandas, Ardauli
020 Necropolis of Brodu, Oniferi
021 Necropolis of Istevéne, Mamoiada
022 Grotta Corbeddu, Oliena
023 Menhir of Cuccuru Tundu, Villa Sant'Antonio
024 Shelter of Su Forru de is Sinzurreddus and Stone tool workshops of Sennixeddu
025 Archaeological Park of Pranu Mutteddu, Goni
026 Necropolis of Montessu, Villaperuccio

includes the Necropolis of Puttu Codinu in Villanova Monteleone (no. 2), which is defined as an element of the historical-cultural landscape system together with the hypogeal Necropolis of Pubusattile. In particular, documents defined the identity value defined as follows: «*The complex of historical-environmental resources, in relation to the conditions of high naturalness, the permanence of traditions that bear witness to the connection of local communities with the territory, are the cornerstones of local identity, which has been able to maintain and consolidate this role, also considering the existing relations with the Planargia, Alghero and Meilogu areas. These aspects make the Monteleone Area an appealing area, within complex interconnections facilitated by the high landscape value of natural and historical areas*».

In Area no. 13 Alghero, identified by the Gulfs of Alghero and Porto Conte, the reclamation area of Fertilia and the hydro-graphic systems of Rio Calic and Rio Barca, lies the Necropolis of Anghelu Ruju in Alghero (no. 1), serving, together with the hypogeal Necropolis of Santu Pedru, as archaeological evidence of the reference territory and, therefore, an element of the historical-cultural landscape system. The same area includes the Necropolis of Monte Siseri/S'Incantu in Putifigari (no. 3) and the archaeological complex of Monte Baranta in Olmedo (no. 4), which are not mentioned, though. The detail sheet reports that «*the potential of the Area lies in the presence of the system of major natural elements and settlements serving as the basis for landscape identity: the complex of the historical settlement of Alghero and Fertilia and the seafront, the system of natural areas, the intertwining of the agricultural landscape including the reclaimed land, vineyards and olive groves, together with the complex of activities that take place there (residential, productive, tourist), a sound image of balance and integration of landscape elements*».

Monte d'Accoddi in Sassari (no. 6), the Necropolis of Su Crucifissu Mannu in Porto Torres (no. 7), both mentioned as elements of the historical-cultural landscape system; but also falling within the same territorial border are the *Domus de janas* of Orto del Beneficio Parrocchiale in Sennori (no. 8) and the Roccia dell'Elefante in Castelsardo (no. 9). Among the objectives to be pursued is the redevelopment of the archaeological areas «*reinforcing the relations with the cities of Porto Torres and Sassari seeking the creation of a network to promote a cultural use of the landscape*».

In Area no. 17 Gallura Costiera nord-orientale, identified by the coastal landscapes facing the La Maddalena Archipelago, between the northern end of the Rena Maiore beach to the west and Cala Petra Ruja to the east, the Necropolis of Li Muri in Arzachena (no. 10) is included, together with other archaeological evidence forming part of the historical-cultural landscape system. In this area, «*the richness and complexity of the settlement fabric offers a sound basis for its redevelopment*» through «*their connections with the coastal system and with the inland rural areas*».

Area no. 22 Supramonte di Baunei and Dorgali includes the caves and archaeological sites of the Lanaitho valley, including Grotta Corbeddu in Oliena (no. 22), cited as an element of the historical-cultural landscape. The guidelines include the «*organization of a controlled use of the karstic systems, archaeological sites and environmental elements, through a coordinated management, in order to rebalance the needs of exploitation with the conservation of resources*».

The *SardegnaGeoportale* web portal (www.sardegnageoportale.it), man-

fig. 4.67 - Sites within SAC areas.

fig. 4.68 - Sites within national parks.

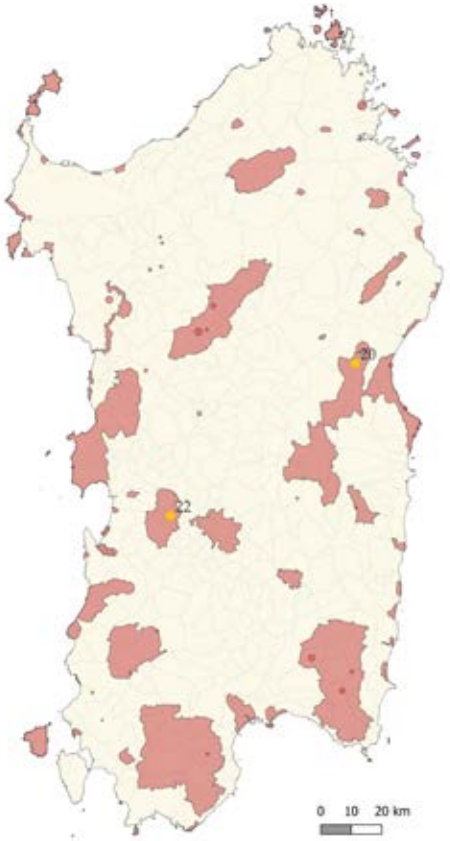


fig. 4.69 - Sites within regional parks.

fig. 4.70 - Sites within Parco Geominerario della Sardegna.

Distribution of monuments

001 Necropolis of Anghelu Ruju, Alghero
002 Necropolis of Puttu Codinu, Villanova Monteleone
003 Necropolis of Monte Siseri or S'Incantu, Putifigari
004 Archaeological complex of Monte Baranta, Olmedo
005 Necropolis of Mesu 'e Montes, Ossi
006 Sanctuary of Monte d'Accoddi, Sassari
007 Necropolis of Su Crucifissu Mannu, Porto Torres
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016 Necropolis of Sos Furrighesos, Anela
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020 Necropolis of Brodu, Oniferi
021 Necropolis of Istevéne, Mamoiada
022 Grotta Corbeddu, Oliena
023 Menhir of Cuccuru Tundu, Villa Sant'Antonio
024 Shelter of Su Forru de is Sinzurreddus and Stone tool workshops of Sennixeddu
025 Archaeological Park of Pranu Mutteddu, Goni
026 Necropolis of Montessu, Villaperuccio

aged by the regional administration, provides lists and maps of protected/restricted/safeguarded areas and assets, together with the type of constraint and reference legislation, while the *SardegnaAmbiente* web portal (www.sardegnambiente.it), also managed by the regional administration, allows to browse environmental data and their distribution throughout the regional territory; on the one hand, these tools allow the continuous and up-to-date monitoring of the territorial situation and, on the other, the assessment of potential impacts and/or risks threatening the classified cultural, landscape and environmental assets.
The areas where the archaeological monuments are located are generally neither affected nor compromised by their vicinity to major infrastructures such as industrial complexes, polluted or contaminated sites, invasive infrastructures, and alternative energy plants. A clarification must be added regarding the latter category. In Sardinia, compared to the size of the territory, there is a very high number of projects being submitted for the installation of energy production plants from renewable sources. In particular, being favored by the windy and sunny climate, wind farms are the installations with the greatest impact on the quality of the landscape involved. However, Italian rules and regulations requires the issue of an authorization before they can be build, subject to the positive outcome of the Environmental Impact Assessment, with an administrative procedure in the hands of the Autonomous Region of Sardinia, following the opinion of the Ministry of Culture. Therefore, this procedure guarantees the protection of the cultural and landscape values of the assets included in the nominated property.

4.b (ii) Environmental pressures, natural disasters and risk management

4.b (ii).1 Risk assessment: definitions

According to the formal definition, a risk is the chance that a natural or human-induced phenomenon may cause harmful effects on the population, residential and productive settlements, infrastructure and cultural heritage within a particular area, over a given period of time.
Risk assessment is a process of territorial analysis and, in general terms, has several components:

– **hazard**, H: the likelihood of a potentially disruptive event occurring in a given time period and area.
– **elements exposed to risk**, E: anything that may be damaged in a given area.
– **vulnerability**, V: ability of a given element to withstand an event with a certain intensity.
– **specific risk**, Rs: degree of loss expected as a consequence of a particular natural or man-induced event; it can be expressed by the formal equation:
$Rs = H \times V$
– **total risk**, R: number of human casualties, injuries, property damage expected as a result of a particular natural event and expressed by the product of:

$$R = H \times V \times E = Rs \times E$$

In order to calculate the listed components, it is necessary to define:

– The **intensity** (I): geometric and mechanical severity of the potentially disruptive event that can be expressed on a relative scale or in terms of one or more characteristic quantities of the phenomenon (e.g. velocity, volume, energy).

– **value of exposed elements**(W): defined as the economic value of each element at risk in a given area. It may be expressed in terms of the number or quantity of exposed units or in monetary terms.

– **potential damage** (Wl): the potential magnitude of losses in the event of the occurrence of an event with a given intensity and can be expressed in terms of numbers, quantities or even monetary terms.

The total risk, R(I; E), for a given event associated with a particular risk element, E, and a given intensity, I, is expressed through the product of:

$$R(I; E) = H(I) \times V(I; E) \times W(E)$$

which can also be rewritten as:

$$R(I; E) = Rs(I; E) \times W(E)$$

or, equivalently:

$$R(I; E) = H(I) \times Wl(I; E)$$

The value of R(I,E) can be expressed in terms of annual cost or the number or quantity of units lost per year.

Risk assessment consists of analyzing the relationships between the various vulnerability factors of a given territory and the various possible forms of hazard.

A complete risk analysis, referring to natural or man-induced events, is carried out following the different stages:

1. Description of the state of the art
2. Intensity assessment
3. Hazard assessment
4. Definition of elements at risk
5. Vulnerability assessment
6. Risk assessment
7. Definition of acceptable risk
8. Risk management.

4.b (ii).2 Hydrogeological risk

Hydro-geological risk is a risk related to instability event linked to slope instability and the hydraulic response of watercourses as a result of particular environmental, weather and climate conditions affecting rainwater and its hydrological cycle with possible impacts on the population, the environment, cultural heritage, linear communication infrastructures, companies and production facilities.
Hydro-geological instability is an issue of particular relevance for Italy due to the natural proclivity of the territory to instability, linked to its weather, climate, topography, morphology and geology. In addition, Italy is a country highly affected by anthropizationo.
The increase of urbanized areas, which has taken place since WWII, often in the absence of proper territorial planning, has led to a considerable increase in the number of elements exposed to risk, i.e. properties and people present in areas potentially affected by landslides and floods. Artificial surfaces have indeed risen from 2.7% in the 1950s to 7.11% in 2020, and at the same time the abandonment of mountain and hilly rural areas has led to a lack of land protection and maintenance.
Current climate change is also causing an increase in the frequency of intense rainfall events and, as a consequence, an increase in the frequency of surface landslides, debris flows and flash floods.
The assessment of hydro-geological risk on the territory is considered a strategic measure for a suitable territorial planning. For this reason, the national territory is subject to the Hydrogeological Asset Plan (or PAI), drawn up by each Region for basin management planning. Indeed, the PAI serves as a Territorial Sector Plan and is a cognitive, regulatory and technical-operational tool, by which actions, operations and rules of use concerning the protection of the territory from hydro-geological risk are planned and programmed.
The Plan defines hydro-geological as divided into slope instability (**geomorphological risk**) and overflow and flooding events (**hydraulic risk**).
With regard to PAI Sardegna, the geomorphological risk assessment is mainly carried out with first level rapid methods, through an estimation of the hazard based on geomorphological aspects (therefore mainly assessed on a map) and an estimation of the potential damage by the following formula:

$$R(I; E) = H(I) \times Wl(I; E)$$

where the exposed elements (E) are formally human life, structures and linear infrastructures.
Geomorphological risk zoning is entrusted to local authorities (Municipalities and Provinces), resulting in an uneven and partial mapping of the territory.
As for the hydraulic risk, the zoning is based on specific hydraulic analyses for the valley areas of the island's main watercourses with different hazard scenarios and, for the rest of the territory, on the localized analysis of towns and the crossings of the main linear infrastructures.
Also, for hydraulic risk, exposed elements (E) are formally human life, structures and infrastructures.
For both types of risk, the PAI does not specifically consider a damage assessment for exposed cultural assets. Therefore, the risk assessment for these elements must be effectively and formally defined according

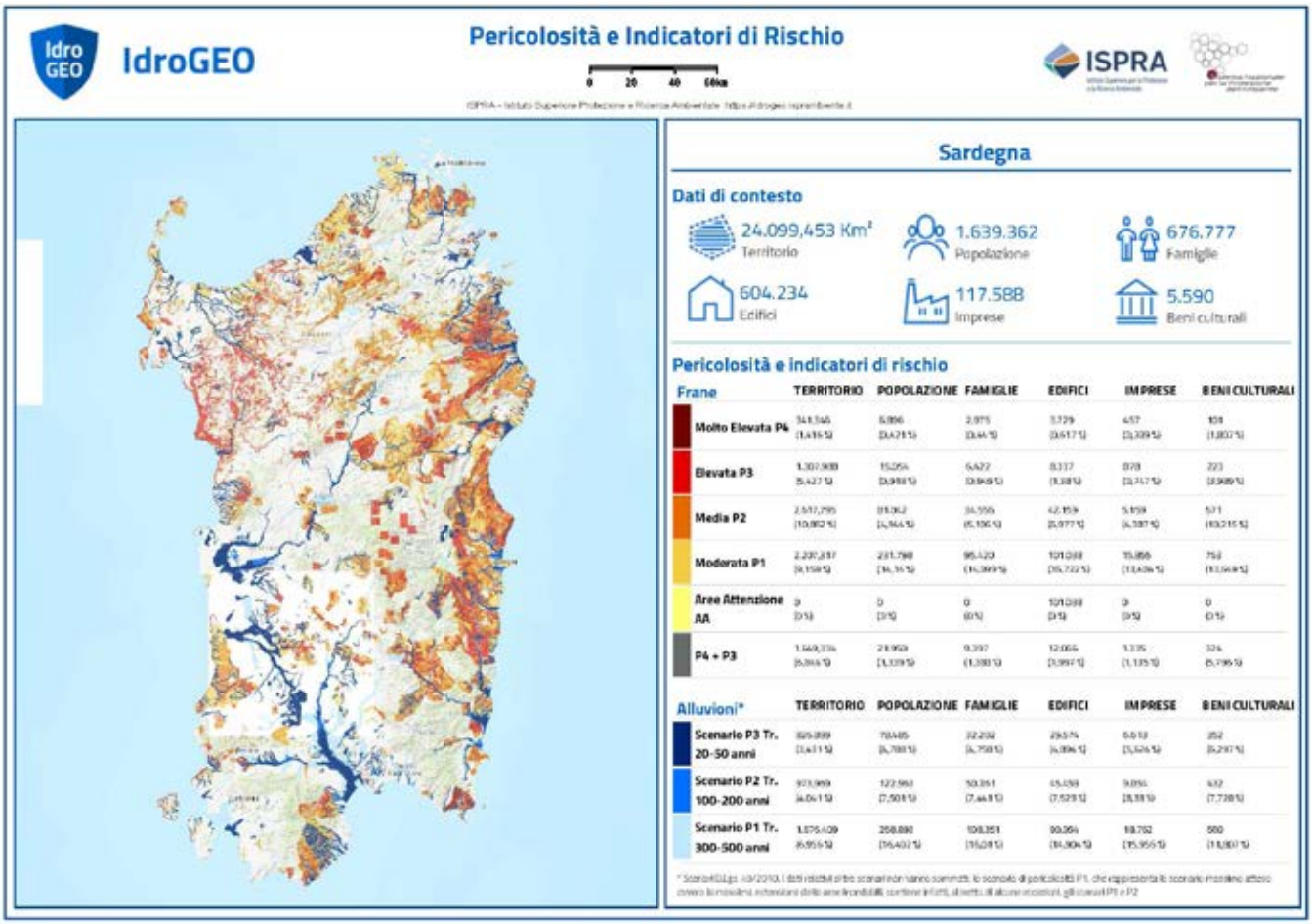


fig. 4.71 - Hydro-geological risk in Sardinia, aggregate data by ISPRA (https://Idrogeo.isprambiente.it).

to the specific characteristics of the assets.
Therefore, in this report, the hazard for the different types of events has been analyzed preliminarily as a risk indicator independent of the exposed element.
fig. 4.71 shows the hazard map for geomorphological risk (landslides) and hydraulic risk (floods) with a synoptic data chart processed by ISPRA on the number of exposed elements, divided into the following types: population, households, buildings, businesses and cultural heritage.

The map in fig. 4.71 highlights the difference in the landslide hazard assessment carried out in the different regional areas. The NE zone, that is, the territory of the Province of Sassari between 2001 and 2016, shows a coherent and even zonationo. The eastern coast shows an almost complete zonation, carried out at the scale of the municipal territory, which is fairly consistent with an apparently more cautious estimation of the hazard. On the other hand, the central areas show a "patchy" zoning layout, carried out on a technical map close to some towns, resulting in a partial coverage of rural areas where most of the archaeological assets are located. On the other hand, in the south, a municipality-scale zoning has been developed, drawn up mainly following acts of God, which is often inconsistent if overlapped on neighboring territories.

To assess the geomorphological risk, the types of instability (including potential instability), which are typical of rock masses (i.e. collapse, overturning, block sliding), have been identified, both by consulting the detailed zoning drawn up by PAI Sardegna, if present, and through direct assessment carried out as part of a special inspectiono. The activation or reactivation of such phenomena can be caused by multiple overlapping factors that in the Sardinian context can be traced mainly to:

- inherent factors:
  - degree of fracturing/alteration of the rocks and/or their joints;
  - unfavorable gap orientation;
  - permeability or competency contrast;
- geomorphological factors:
  - river erosion at the foot of the slope;
  - side erosion;
- physical factors:
  - short heavy rainfall;
  - prolonged exceptional rainfall;
  - thermoclasticism;
  - rapid rise or fall of the external water level;
- anthropic factors:
  - excavation at the foot;
  - load on the ridge;
  - deforestation;
  - mining;
  - rapid emptying or reservoir level raise.

By standardizing the hazard levels defined by the PAI, commonly recognized and adopted by territorial planning tools on a national scale, most sites report a geomorphological hazard level ranging from irrelevant (Hg0) to average (Hg2).
Only a few sites have a high geomorphological hazard level (Hg3) and only the Necropolis of Sos Furrighesos (no. 16) and the Complex of Monte Baranta (no. 4) have a very high hazard level (Hg4) (fig. 4.72). Therefore, for these sites, an in-depth hazard assessment and, as a result, a geomorphological risk assessment with a higher level of detail are suggested. This assessment should be carried out downstream of the geomorphological and geotechnical characterization of the rock masses, in correlation with an environmental and kinematic monitoring system. After the assessment, a suitable safety plan may be developed.

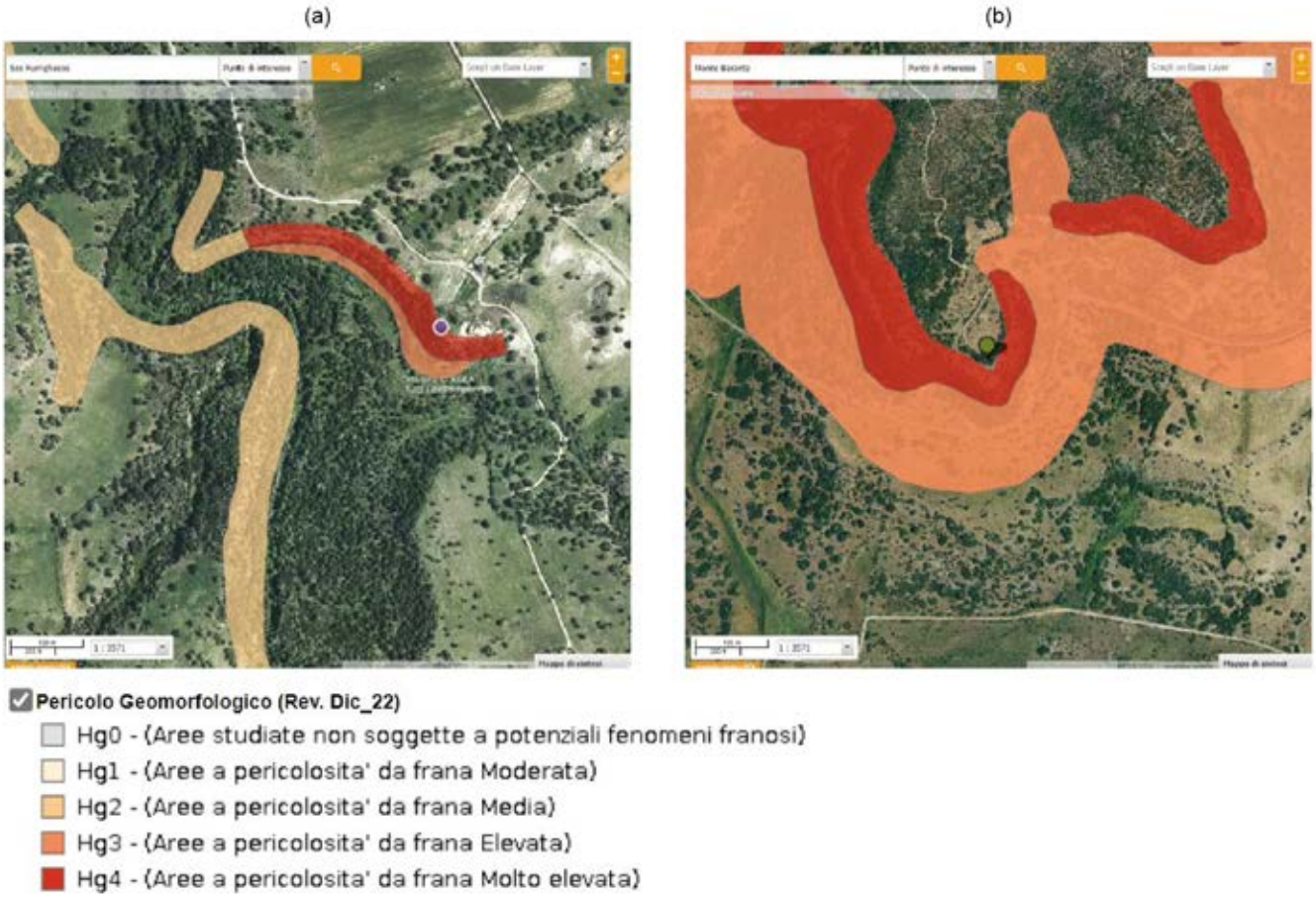


fig. 4.72 - Geomorphological hazard assessment of the Necropolis of Sos Furrighesos (a) and the Complex of Monte Baranta (b), (PAI -Sardegna: https://www.sardegnageoportale.it/webgis2/sardegnamappe/?map=pai).

Due to their geomorphology, the hypogeal sites fall in an area having an irrelevant (or not defined) hydraulic hazard level with the exception of the Necropolis of Anghelu Ruju (no. 1) (fig. 4.73a) which, is close to the Riu Sassu flood areas, although indirectly involved in the zoning, being immediately downstream of the critical point where it crosses the SP5 road. As far as built monuments are concerned, the only site marginally affected by hydraulic danger is the Complex of Monte d'Accoddi (fig. 4.73b).

Other examined mechanisms include the potential for *sinkhole* creation, due to the collapse of the vault of undetected natural or anthropogenic underground cavities, which may affect all the sites included in the list and, in particular, those located in plain/pediment geomorphological areas.
The assessment run for each site are reported in the detail sheets.

4.b (ii).3 Seismic risk

Seismic risk is calculated through three stochastic components: "Hazard", "Exposure" and "Vulnerability", considered separately, given their different nature. "Hazard" is the likelihood that a seismic event of a given intensity can occur in a time bracket commonly referred to "Period of Reference". This stochastic assessment results primarily from the hazard

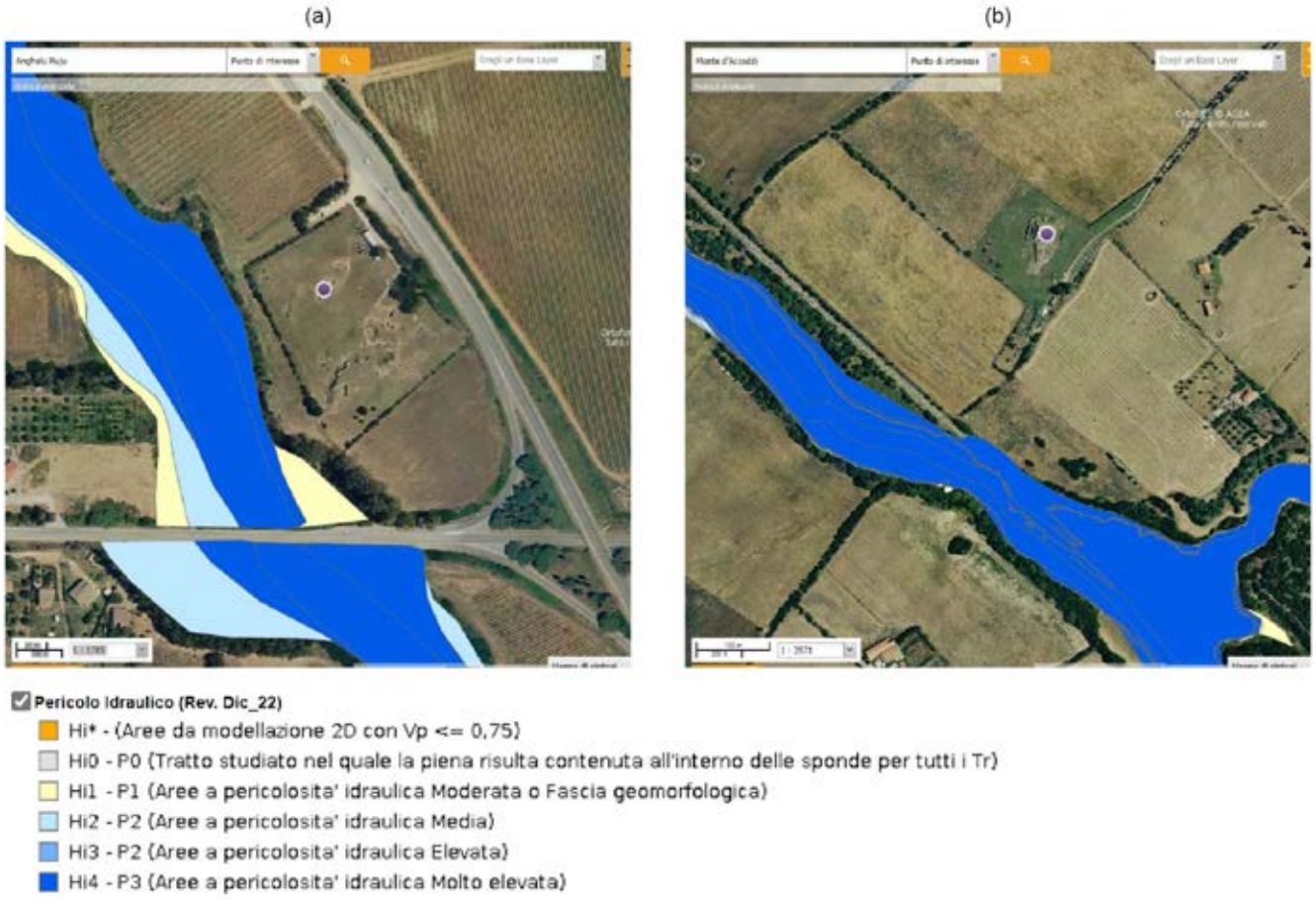


fig. 4.73 - Hydraulic hazard close to the Necropolis of Anghelu Ruju (a) and the Complex of Monte d'Accoddi (b), (PAI -Sardegna: https://www.sardegnageoportale.it/webgis2/sardegnamappe/?map=pai).

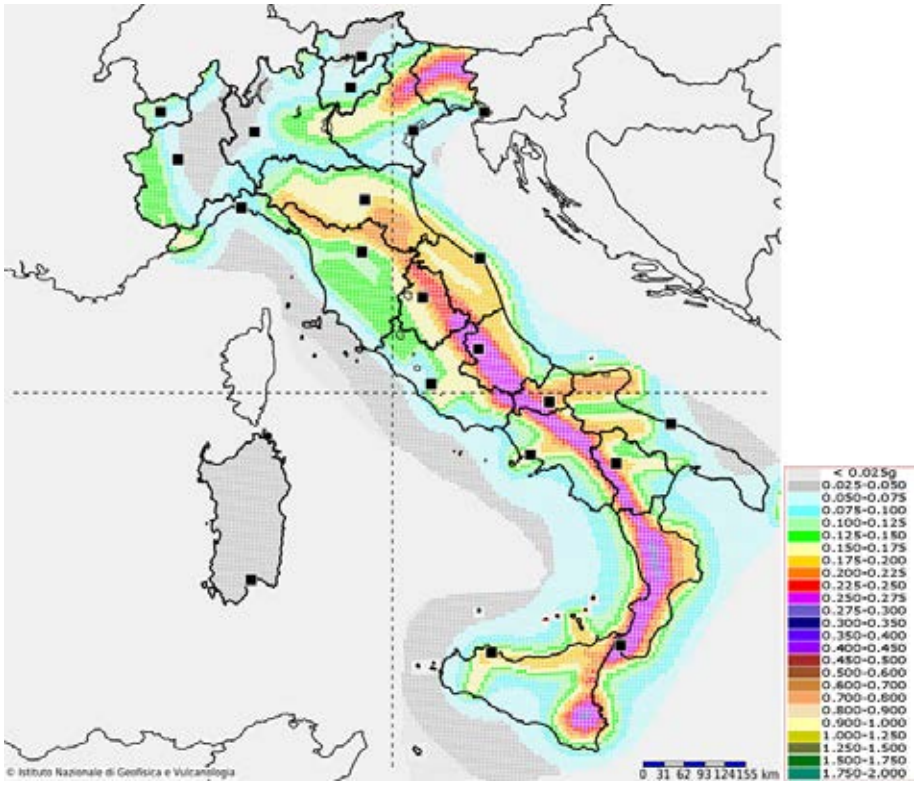


fig. 4.74 - Basic national seismic hazard map, based on PGA values with a chance to exceed 10% in 50 years, (source https://esse1-gis.mi.ingv.it).

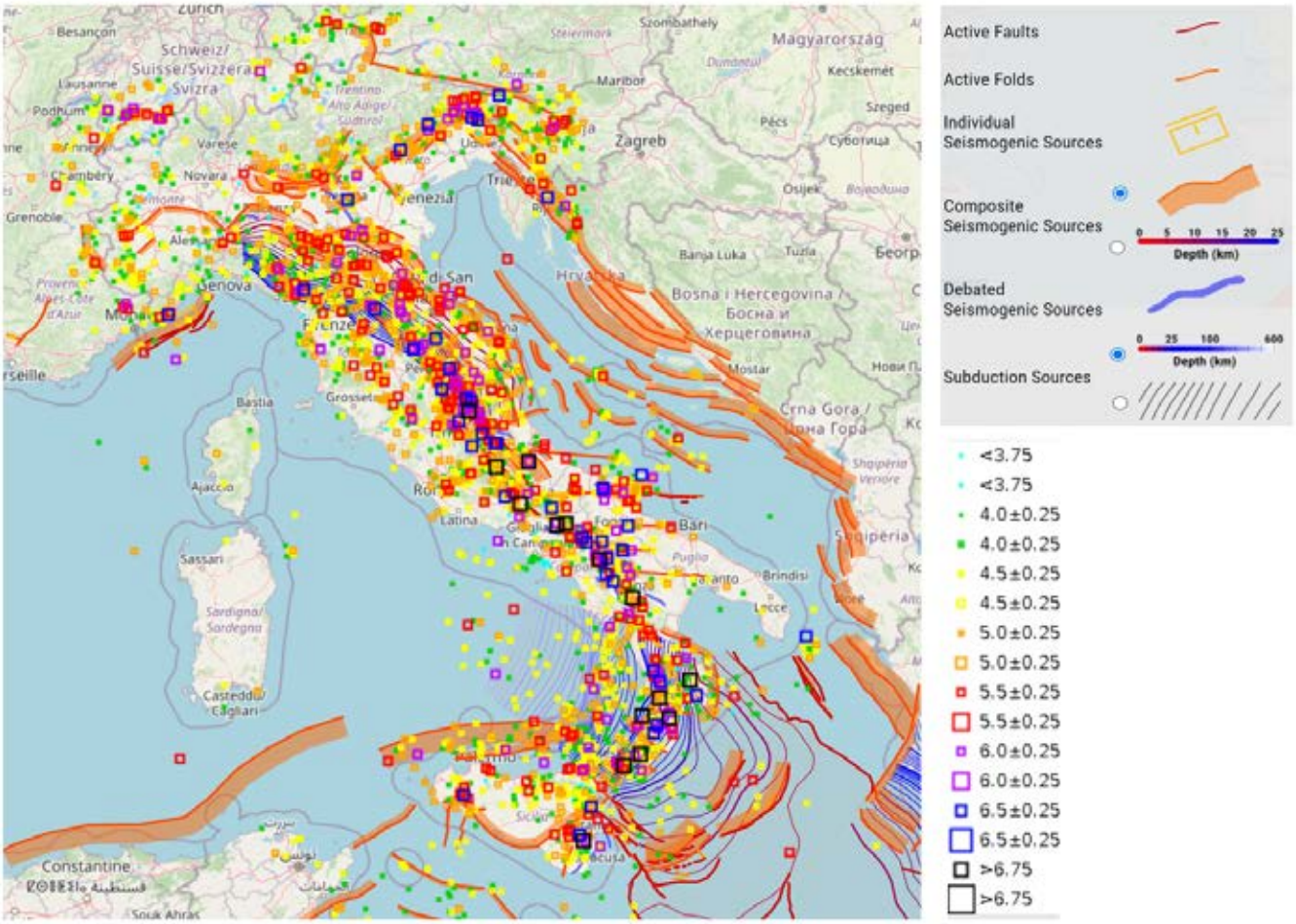


fig. 4.75 - Seismogenic sources on the national territory and magnitude of the events during the last 1000 years, (source https://diss.ingv.it/).

models (Basic Seismic Hazard) developed by the National Institute of Geophysics and Volcanology (INGV), which refers to seismological studies of seismogenic sources active on the national territory. The results of the hazard analysis are reported globally as part of the "hazard maps", defined for each significant intensity parameter (maximum acceleration, spectral coordinates) of the earthquake considered, and for probability levels, which correspond to as many analytical scenarios (seismic monitoring and design of structures and infrastructures - Limit State). The hazard values mapped on a large scale (e.g., regional) are to be adjusted based on a smaller scale micro-zoning and the local situation of each site, thus calculating a "Local Hazard" value for each site or monument.

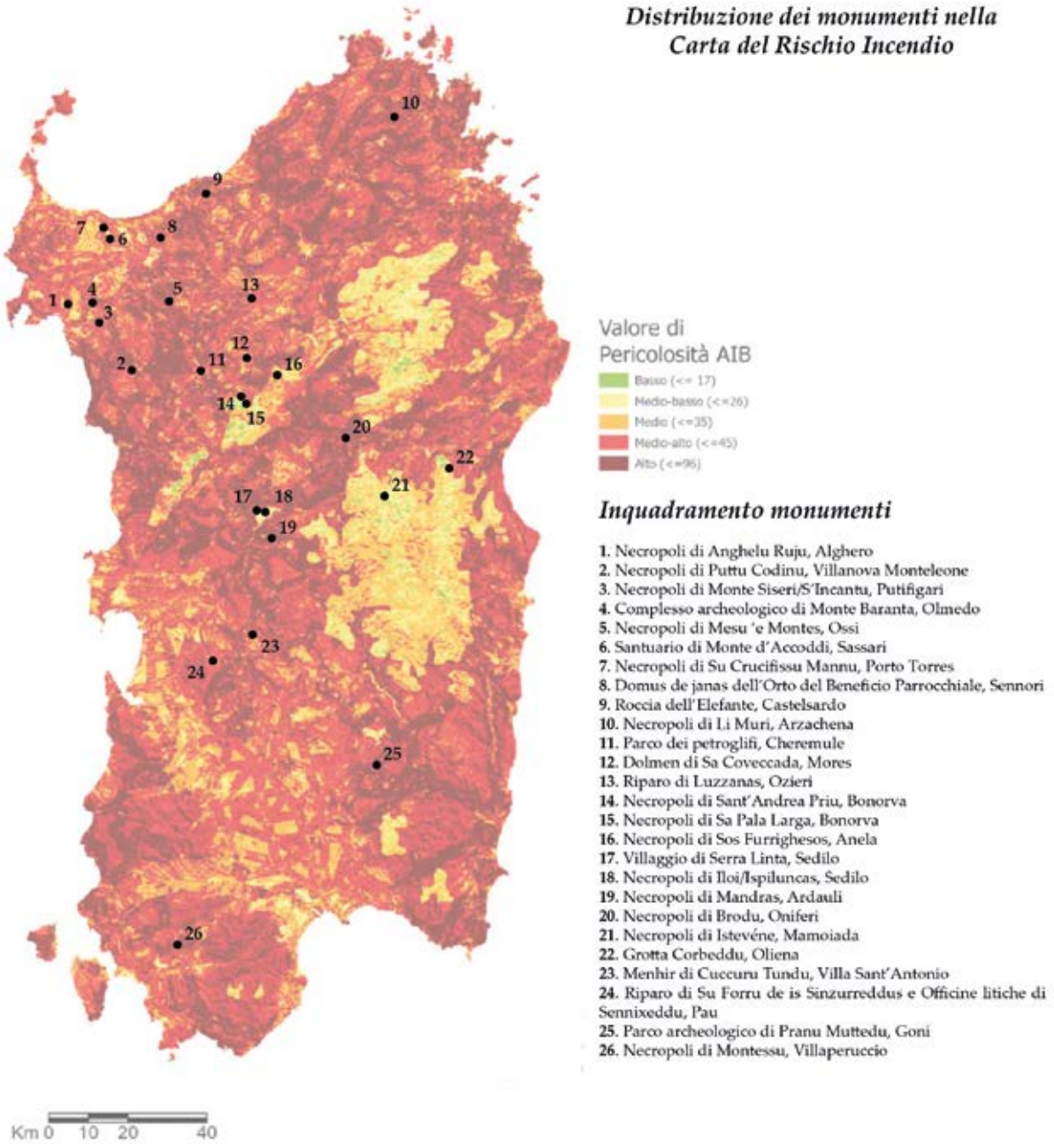
Taking into account the fact that no active seismogenic sources are known on the Sardinian territory, nor in its proximity, the "basic hazard" of Sardinia has been defined as a precautionary measure in a flat and even manner on the regional territory; therefore, there are no differences between one site and another and, in general, such hazard level is low since the active seismogenic area closest to the island (the eastern branch of the North African *offshore* fault) is about 70 km away from Capo Carbonara (and 115 km away from the nearest site, that is, the Necropolis of Montessu, no. 26).

The Exposure of the site and/or the individual monument calculates the magnitude of potential losses in the event of an event that causes a certain level of damage. "Losses" means the loss of the asset, the cost of its damage/restoration and losses in terms of human lives. Taking into account the low attendance of the site on an annual basis, it can generally be said that exposure is limited.
Vulnerability arises from the inherent morphological-structural characteristics of the site/monument that may make it prone to a certain level of damage (Limit State) during a seismic event of a given intensity or return period. Taking into account the overall characteristics of the monuments under examination, vulnerability levels are generally quite low. As for the hypogeal monuments, the probability of damage is remote because it would require the landslides to be triggered, which require very high triggering accelerations compared to those expected in the territory. On the other hand, with regard to elevation works, taking into account their limited height and thinness, and the dissipation capacity of dry-laid stone works, the inclination to significant damage is also low. As a result, a low seismic risk can reasonably be considered for all sites scattered across the regional territory.

4.b (ii).4 Fire risk

The high percentage of woodland requires the development of a fire risk mitigation strategy. The Autonomous Region of Sardinia drafted the *Regional Plan against forest fires and fire-fighting activities* (PRAI) as a fire risk management tool.
Fire risk is assessed according to: Hazard, meaning the likelihood that a fire of a certain intensity occurs in a certain period of time in a given area; Vulnerability, meaning the inclination of an element (people, buildings, infrastructure, economic activities, etc.) to suffer damage as a result of the stress induced by a fire of a certain intensity; Exposure or Exposed Value, meaning as the number of Units or Value of each of the elements at risk present in a given area, such as human lives or settlements, etc. Based on the fire risk assessment, the *Forest Static Fire Risk Charter* was developed in the framework of the PRAI. This map has also allowed to define an orderly scale of priority actions to optimize the distribution of resources in the regional context. Priority actions are established based on both the likelihood that fires of a certain intensity and, therefore, capable of a certain potential impact, occur, and considering the exposed potentially threatened, their vulnerability to fires, and their value. During the last decade, thanks to stronger counter-actions, the surface affected by fires has significantly decreased, while the number of fires, which has been more or less stable for about twenty years, has increased.

The PRAI was drafted with the contribution of the General Directorates of Civil Protection, the Forestry and Environmental Surveillance Corps (CFVA), the FoReSTAS Agency, the Regional Agency for the Protection of the Environment for Sardinia and the Regional Fire Department of Sardinia (VV.FF.). Subject to updating and review every three years, it



Inquadramento monumenti

1. Necropoli di Anghelu Ruju, Alghero
2. Necropoli di Puttu Codinu, Villanova Monteleone
3. Necropoli di Monte Siseri/S'Incantu, Putifigari
4. Complesso archeologico di Monte Baranta, Olmedo
5. Necropoli di Mesu 'e Montes, Ossi
6. Santuario di Monte d'Accoddi, Sassari
7. Necropoli di Su Crucifissu Mannu, Porto Torres
8. Domus de janas dell'Orto del Beneficio Parrocchiale, Sennori
9. Roccia dell'Elefante, Castelsardo
10. Necropoli di Li Muri, Arzachena
11. Parco dei petroglifi, Cheremule
12. Dolmen di Sa Coveccada, Mores
13. Riparo di Luzzanas, Ozieri
14. Necropoli di Sant'Andrea Priu, Bonorva
15. Necropoli di Sa Pala Larga, Bonorva
16. Necropoli di Sos Furrighesos, Anela
17. Villaggio di Serra Linta, Sedilo
18. Necropoli di Iloi/Ispiluncas, Sedilo
19. Necropoli di Mandras, Ardauli
20. Necropoli di Brodu, Oniferi
21. Necropoli di Istevéne, Mamoiada
22. Grotta Corbeddu, Oliena
23. Menhir di Cuccuru Tundu, Villa Sant'Antonio
24. Riparo di Su Forru de is Sinzurreddus e Officine litiche di Sennixeddu, Pau
25. Parco archeologico di Pranu Muttedu, Goni
26. Necropoli di Montessu, Villaperuccio

fig. 4.76 - Fire risk map, with site localization (re-processing of a map from www.sardegnaambiente.it).

complies with the provisions of the national framework law on forest fires (Law no. 353 of 21 November 2000 as amended and supplemented), as well as with its specific guidelines issued by the Minister Delegate for the Coordination of Civil Protection (Ministerial Decree of 20 December 2001), and with the provisions of Regional Law no. 8 of 27 April 2016 (BURAS no. 21 - Part I and II of 28/04/2016 - Forestry Law). The PRAI plans and coordinates the fire-fighting activities carried out by the institutions involved; it includes the thematic knowledge framework useful for the planning of forecasting, prevention and active fight activities,

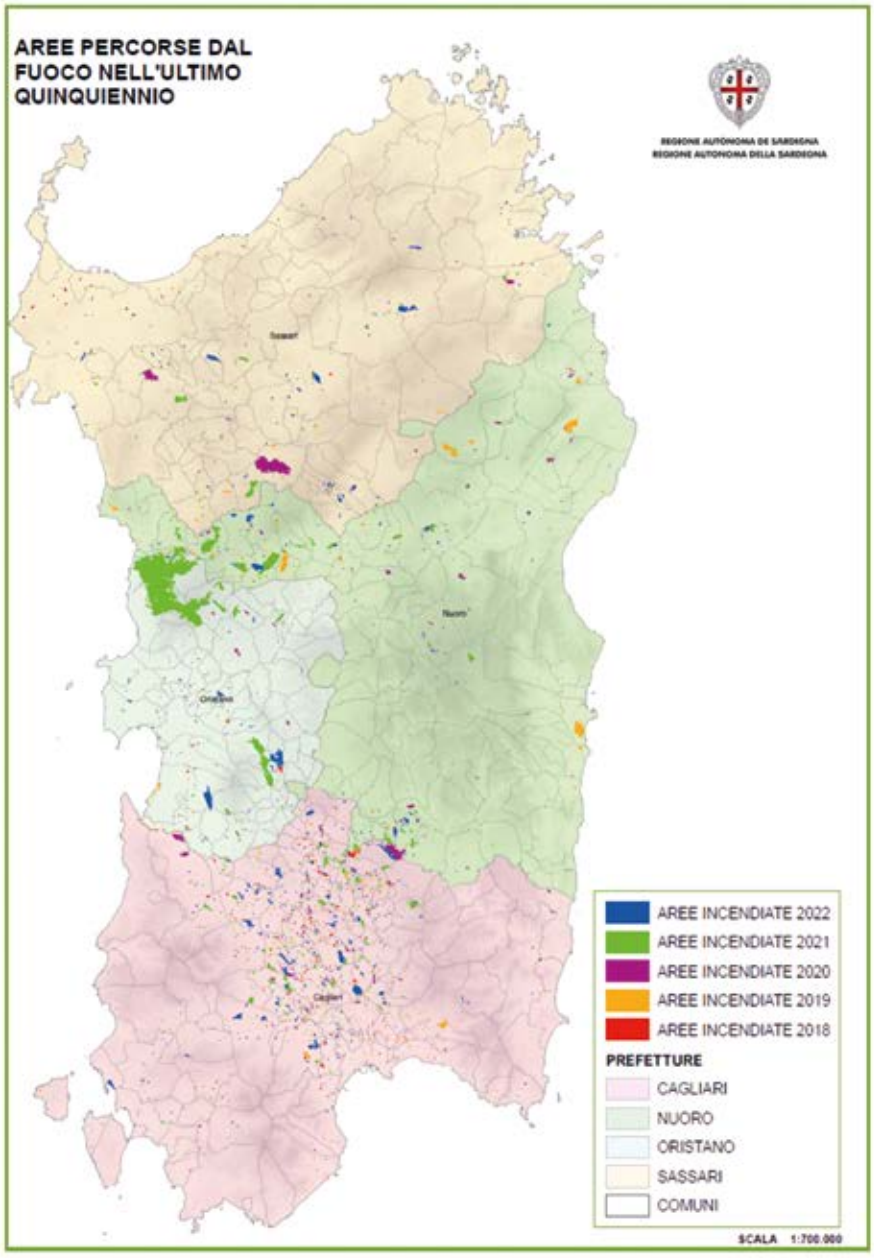
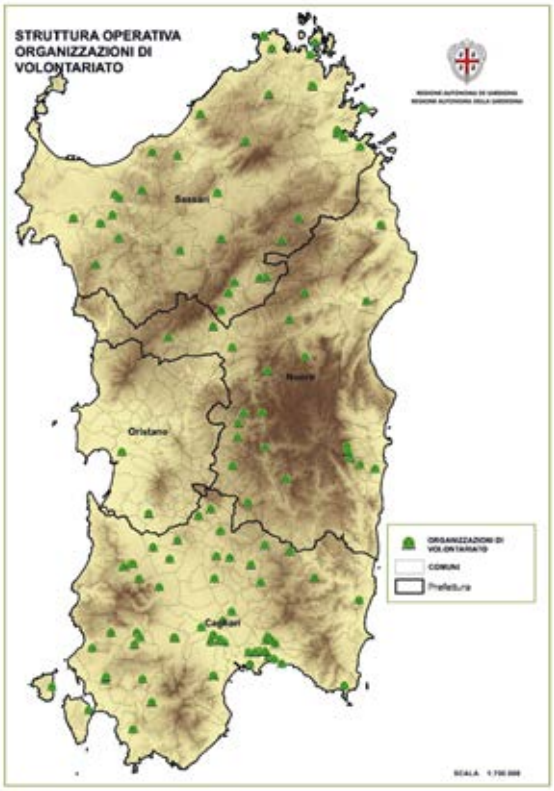


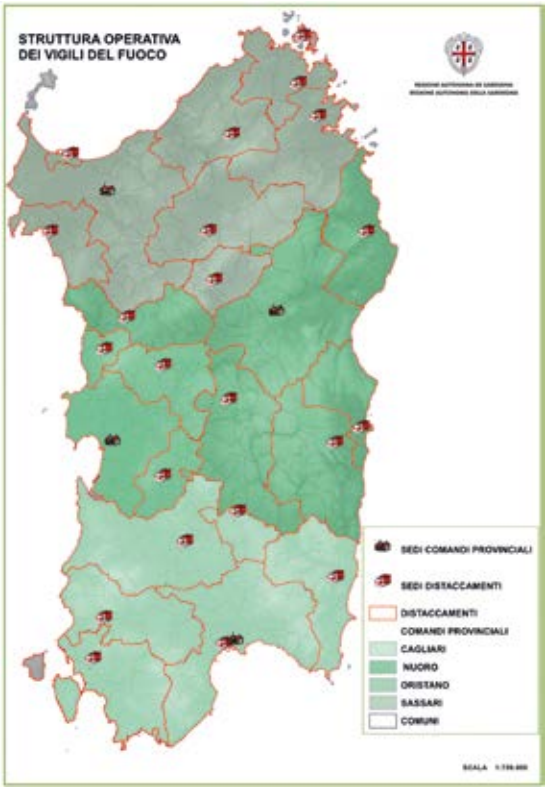
fig. 4.77 - Burned area survey map for the five-year period 2018-2022.

based on an organizational model consisting of a set of institutional and non-institutional organizations; it describes emergency procedures, territorial monitoring and population assistance activities, and it arranges the related operational activities. The territorial firefighting garrisons identified by the PRAI consist of territorial services, forest stations and CFVA operational bases, fire-fighting teams from the FoReSTAS Agency, VV.FF. headquarters, voluntary organizations, Sardinian rural police forces. The PRAI also lists the outposts of the FoReSTAS Agency and the water resources used to extinguish fires, classified according to the location on the regional territory, the type of resource (well, reservoir, mobile tank, hill pond, lake, fire hydrant) and the vehicle suitable for use (Canadair, Airbus, regional helicopter, tanker). The map included in the PRAI highlights the widespread distribution of fire-fighting equipment in the regional territory.

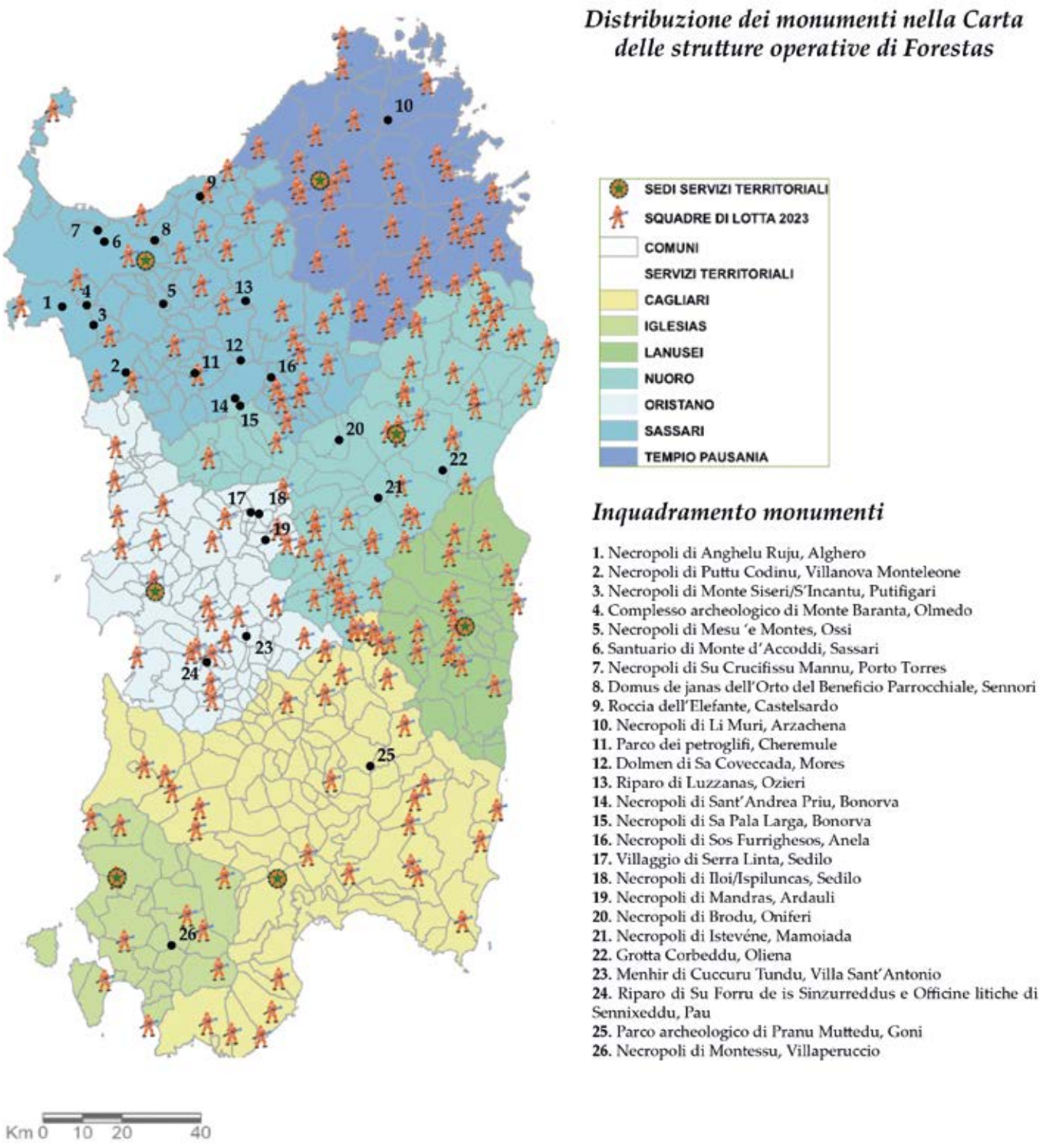
The comparison between the map of the PRAI areas and the site distribution map shows that surveillance guaranteed directly or indirectly in the monumental areas. Therefore, despite the fact that the risk is often

figs. 4.78/4.79 - Maps of the operational bases and operational facilities of the Forestry and Environmental Surveillance Corps (CFVA) (source www.sardegnaambiente.it).





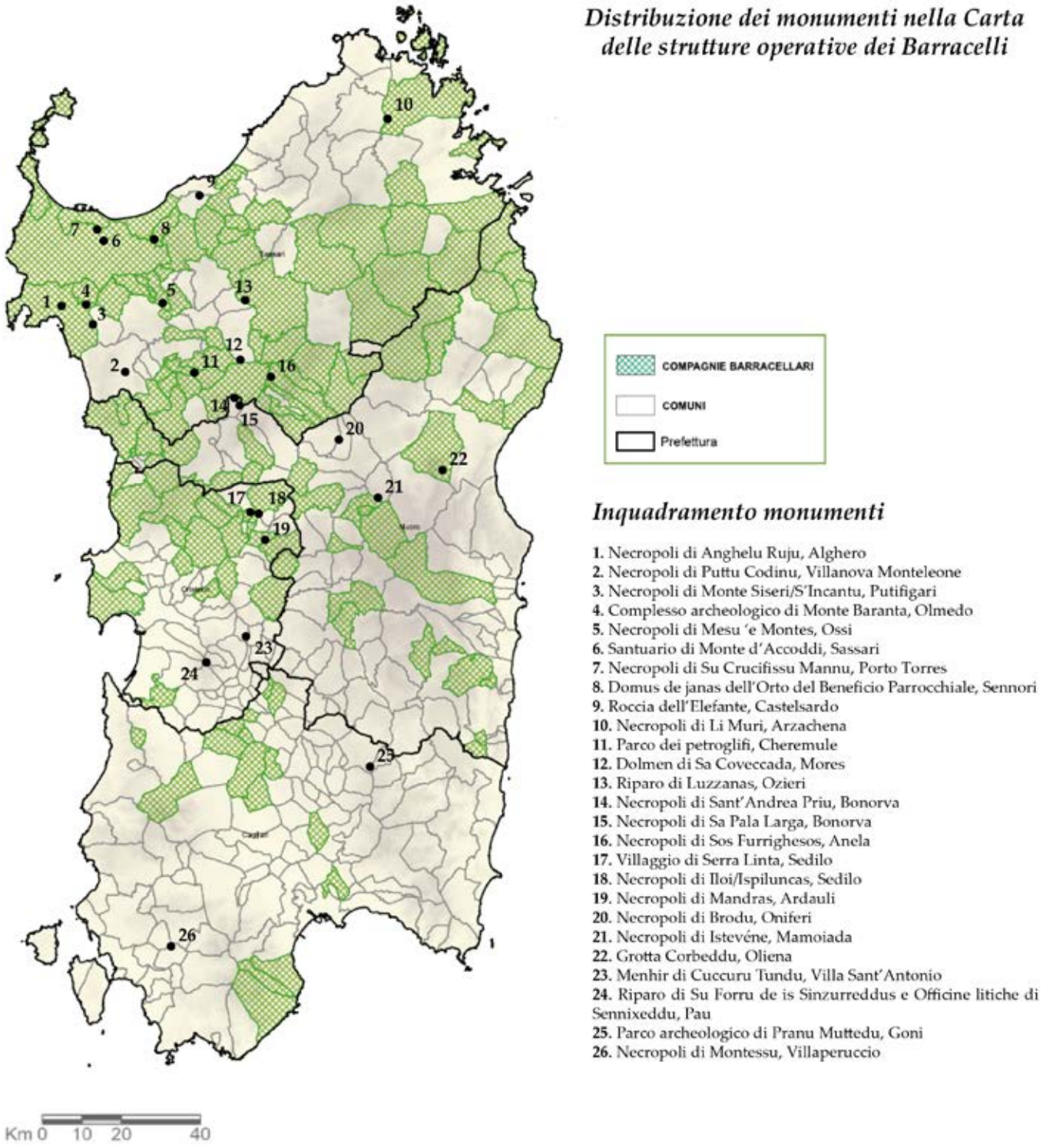
figs. 4.80/4.81 - Maps of operational bases and facilities for the surveillance and operation on the regional territory (source www.sardegnaambiente.it).



Inquadramento monumenti

1. Necropoli di Anghelu Ruju, Alghero
2. Necropoli di Puttu Codinu, Villanova Monteleone
3. Necropoli di Monte Siseri/S'Incantu, Putifigari
4. Complesso archeologico di Monte Baranta, Olmedo
5. Necropoli di Mesu 'e Montes, Ossi
6. Santuario di Monte d'Accoddi, Sassari
7. Necropoli di Su Crucifissu Mannu, Porto Torres
8. Domus de janas dell'Orto del Beneficio Parrocchiale, Sennori
9. Roccia dell'Elefante, Castelsardo
10. Necropoli di Li Muri, Arzachena
11. Parco dei petroglifi, Cheremule
12. Dolmen di Sa Coveccada, Mores
13. Riparo di Luzzanas, Ozieri
14. Necropoli di Sant'Andrea Priu, Bonorva
15. Necropoli di Sa Pala Larga, Bonorva
16. Necropoli di Sos Furrighesos, Anela
17. Villaggio di Serra Linta, Sedilo
18. Necropoli di Iloi/Ispiluncas, Sedilo
19. Necropoli di Mandras, Ardauli
20. Necropoli di Brodu, Oniferi
21. Necropoli di Istevéne, Mamoiada
22. Grotta Corbeddu, Oliena
23. Menhir di Cuccuru Tundu, Villa Sant'Antonio
24. Riparo di Su Forru de is Sinzurreddus e Officine litiche di Sennixeddu, Pau
25. Parco archeologico di Pranu Muttedu, Goni
26. Necropoli di Montessu, Villaperuccio

fig. 4.82 - Map of the operational bases of the FoReSTAS Regional Agency in relation to the location of the Nominated Property sites (re-processed map from www.sardegnaambiente.it).



Inquadramento monumenti

1. Necropoli di Anghelu Ruju, Alghero
2. Necropoli di Puttu Codinu, Villanova Monteleone
3. Necropoli di Monte Siseri/S'Incantu, Putifigari
4. Complesso archeologico di Monte Baranta, Olmedo
5. Necropoli di Mesu 'e Montes, Ossi
6. Santuario di Monte d'Accoddi, Sassari
7. Necropoli di Su Crucifissu Mannu, Porto Torres
8. Domus de janas dell'Orto del Beneficio Parrocchiale, Sennori
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13. Riparo di Luzzanas, Ozieri
14. Necropoli di Sant'Andrea Priu, Bonorva
15. Necropoli di Sa Pala Larga, Bonorva
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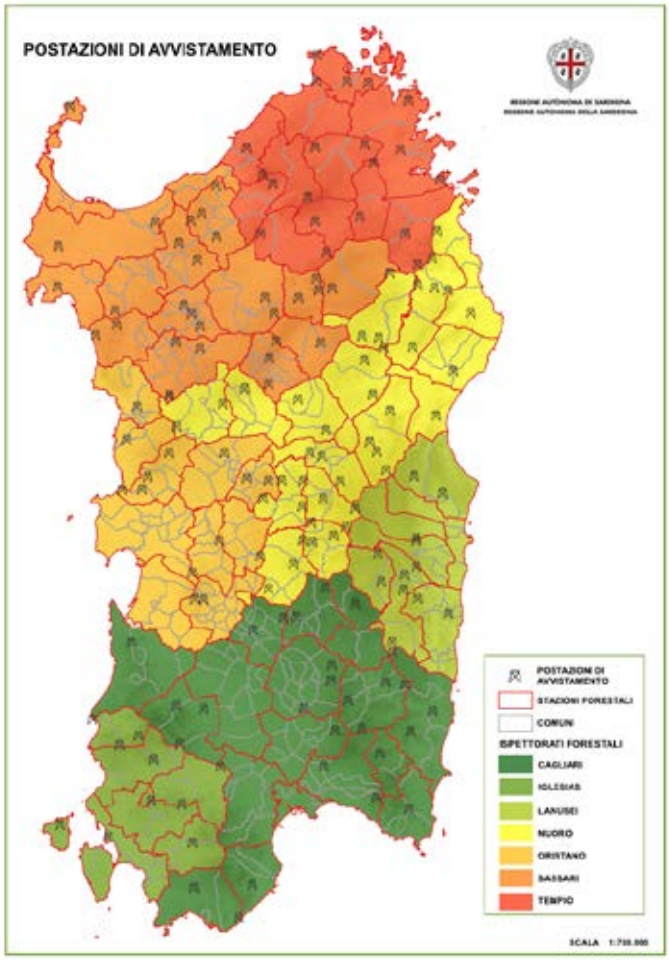
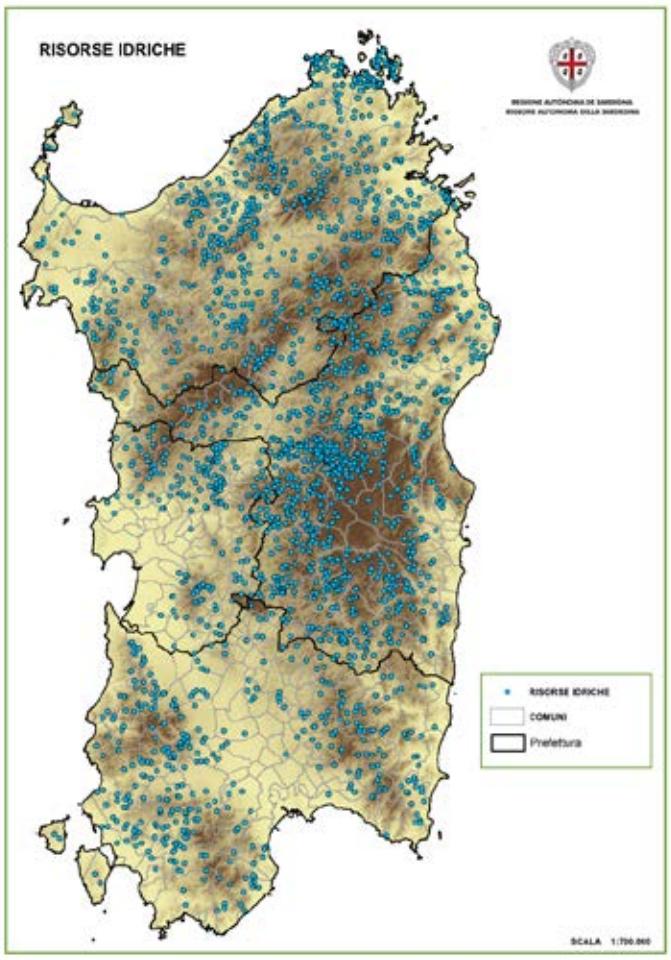
22. Grotta Corbeddu, Oliena
23. Menhir di Cuccuru Tundu, Villa Sant'Antonio
24. Riparo di Su Forru de is Sinzurreddus e Officine litiche di Sennixeddu, Pau
25. Parco archeologico di Pranu Muttedu, Goni
26. Necropoli di Montessu, Villaperuccio

fig. 4.83 - Map of the operational bases of the Barracelli Sardinia Rural Police Corps in relation to the location of the Nominated Property sites (re-processed map from www.sardegnaambiente.it).





figs. 4.84/4.85 - Maps of outposts and supply basins (source www.sardegnaambiente.it).

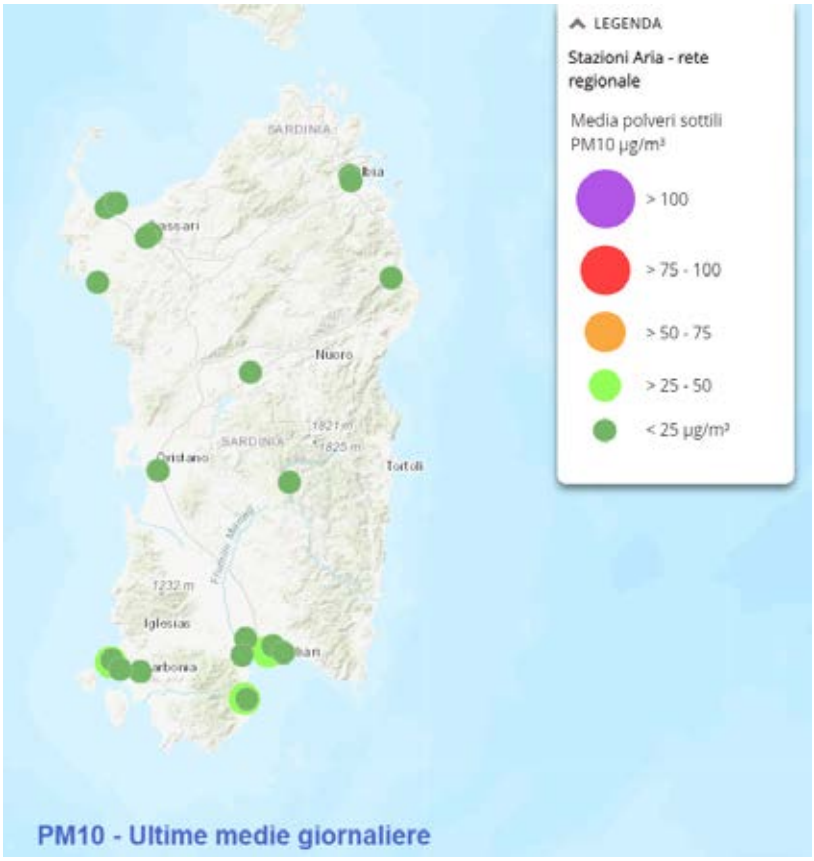
high in rural environments where the monuments are located, a proven risk control and prevention process is in place, as well as emergency management plano.

4.b (ii).5 Air quality and pollution

Air pollution is one of the main risk factors for human health, plants and animals, as well as the modification of the characteristics and properties of building materials, in the specific case of stone monuments. The damage caused to air quality by emissions of anthropogenic origin (industry, traffic, home heating, etc.) and/or of natural origin (fires, Saharan dust, etc.) also affects the quality of the environment and its ecosystems, as well as the material goods they store. Air quality monitoring is therefore the indispensable tool for determining the current situation and for planning actions to be take to mitigate the risk of pollutiono.
Air quality in the regional territory is assessed through various operations carried out by the Autonomous Region of Sardinia in compliance with institutional obligations based on national and EU rules and regulations. It is constantly monitored by the Regional Agency for the Protection of the Environment of Sardinia (ARPAS) through the special stations located across the territory, which measure the concentration of pollutants required by current legislationo. The automatic measurement of pollutant concentrations outdoors (ambient air) detects pollutants such as, benzene, toluene, xylene (BTX), carbon monoxide (CO), volatile organic compounds divided into methane and non-methane organic compounds (VOC), hydrogen sulphide (H2S), nitrogen oxides (NOx-NO-NO2), ozone (O3), particulates with diameters less than 10 and 2.5 µm (PM10 and PM2.5), sulfur dioxide (SO2). As for other pollutants, such as Lead, Arsenic, Cadmium, Nickel, Fluorine, IPA, dioxins, etc., which are relevant from a hygienic-sanitary and environmental points of view, the calculation is carried out in specifically equipped chemical laboratories. The data automatically detected by the monitoring stations are available and can be checked in real time on the ArpasAria Online web portal (https://arpas.maps.arcgis.com/home/index.html), which allows to view the maps and dashboards of the most recent detected values of the parameters required by Legislative Decree 155/2010, as amended, namely PM10, PM2.5, Nitrogen dioxide NO2, Ozone O3, Sulfur dioxide SO2, Carbon monoxide CO, Benzene C6H6.

Air quality monitoring allows to:

- Identify air quality objectives designed to avoid, prevent, or reduce harmful effects on human health and the environment as a whole.
- Assess ambient air quality on the basis of common methods and criteria throughout the country
- Obtain information on ambient air quality as a basis for identifying measures to be taken to counteract pollution and the harmful effects of pollution on human health and the environment, and for monitoring long-term trends as well as improvements due to measures takeno.
- Maintain ambient air quality, where the level is good, and improve it in other cases.



figs. 4.86/4.87 - Maps of the monitoring stations and detection of PM10 particulate matter concentrations, (source https://arpas.maps.arcgis.com/home/index.html).

Annually, data resulting from the monitoring activity are analyzed, processed and summarized in the *Annual Report on Air Quality in Sardinia*, aimed at providing public administrations and citizens with a cognitive framework, that is also used to plan environmental management policies. The *Annual Report for the year 2021*, being the latest available, shows a fairly good situation for the monuments included in the nominated property. Zoning has divided the regional territory into air quality zones, through the consolidation of areas which are as consistent as possible in terms of emission loads, related to the different types of anthropogenic pressures on the ambient air. In particular, the most critical areas are the Cagliari Agglomeration, the Urban Area and the Industrial Area, having a fairly high emission load due to the presence of pollutants mainly connected to the urban densely populated fabric, affected by port, airport, railway, and industrial activities in general. The Rural Zone, characterized by low anthropogenic pressure, consists of the remaining part of the territory of Sardinia, where the monumental sites included in the nominated property area. In this area, the monitored parameters remain stable and largely within regulatory limits.

4.b (ii).6 Climate effects

The nominated cultural heritage and the physical-morphological environment where they are located, are closely interconnected, and changes in environmental conditions are the main causes of the maintenance or potential worsening of the state of conservationo.
The ongoing climate change can amplify the potential factors for altering the state of the site, increasing its vulnerability or exposure to damage from natural and/or man-induced events. The following describes data from scientific papers on the effects on the national and Sardinian territory for probable climate change scenarios and the potential effect on cultural heritage.

Knowledge of climate variations on the ground level is the basic requirement for impact assessment and climate change adaptation strategy.
While knowledge of present and past climate and ongoing variations is based on the observation of climate variables and the application of statistical methods and models to recognize and estimate ongoing trends, knowledge of future climate is based on climate model projections.
As defined by the World Meteorological Organization (WMO), climate projections provide the probability with which certain changes in climate may occur in the coming decades, in relation to various possible developments in global socio-economic development. These conditions (scenarios) involve, in particular, different trends in climate-altering gas emissions into the atmosphere.
In particular, two scenarios were identified: a mitigation scenario, which estimates a moderate radiative forcing value by 2100 (4.5 W/m2 - RCP 4.5), and a scenario characterized by high emission and high value of radiative forcing (8.5 W/m2 - RCP 8.5) used for the drafting of appropriate climate models.
They can be divided into two categories characterized by different spatial scale of simulation:
1) **Global atmosphere-ocean general circulation models**: they are based on well-defined physical principles and can reproduce the observed average characteristics of recent and past climate, at low resolution (between 250 and 600 km) and they are the major tool for studying the evolution of the global climate system in the 21st century.
2) **Regional Climate Models (RCM)**: they allow a better representation of events at the regional scale by taking into account local factors, such as landform and orography. These models are connected to a global model, from which initial and context conditions are acquired, and generate climate projections over a specific area of interest, at a higher resolution (up to a maximum horizontal resolution of 10-50 km).

These models generate results defined by several climate indicators divided into two groups:

1. Rainfall indicators: e.g. number of days with very heavy rainfall (equal to or greater than 20mm) - R20; number of days with significant rainfall during winter - WP; number of days with rainfall during summer - SP; consecutive days without rainfall - CDD; etc.
2. Thermometric indicators: e.g. mean temperature - Tmean; number of days of severe cold - FD; number of days with daily maximum

temperature greater than 29.2°C - SU95P; etc.)
An example of the estimation of the most significant indicators for Italy is shown in fig. 18 and fig. 19, referring to the time interval 2021-2050 for both scenarios.

With reference to Sardinia, the RCP 4.5 model forecast shows a trend toward a concentration of heavy rainfall in the winter period and prolonged drought in the summer period, with a progressive decrease in the number of days of intense cold. The model RCP 8.5 forecast shows a percentage increase in heavy rainfall in the summer period as well, that, combined with the temperature increase, shows what is commonly referred to as climate tropicalizationo.

The archaeological and architectural property and the landscape may be affected differently by such a change due to specific site and material characteristics.
The main vulnerability concerns the exposed and unprotected surfaces of the materials, due to the chemical and physical changes, and the effects of humidity and ventilation, generating interrelated dynamics of physical, chemical and biological degradation and the potential loss of part of the property.

Global warming strongly affects the frequency and intensity of climate-related events, such as droughts, floods and landslides, with expected widespread impacts on the landscape and cultural heritage. Extreme events occur due to a combination of different factors, the incidence of which has systematically increased due to climate change, as evidenced by annual reports on climate anomalies, published by various environmental observatories and research centers.
Climate change events occurring at the macro/meso-scale can be detected by analyzing intra-seasonal and multi-decade climate variability, assessing the hazard for weather events ranging from a few hours to several days.
An additional effect of climate change is a condition of extreme drought for more frequent and prolonged periods of time. Water scarcity, caused by the absence of precipitation for more prolonged periods than the regional multi-year average, results in insufficient water supply.
Related events are the ignition of fires, a widespread problem in all the areas analyzed; extreme temperatures induce processes of desertification and consequent infertility of soils, thus increasing erosiono.
A significant secondary factor is cloudbursts, thunderstorm systems characterized by a low-pressure center, spiraling rain bands and strong winds, fueled by heat released from moist air and condensation of water vapor. A cloudburst acts destructively, generating strong winds, flooding and storm surges. During the past two decades, extreme events in coastal areas have significantly increased, where flash floods are characterized by high kinetic energy, capable of causing significant property damage.
Long-term moisture accumulation in historical materials and structures can increase their physical, chemical, and biological degradation to the point of collapse and loss. Potential flood risk due to heavier rainfall and increased frequency of storms may affect archaeological sites and areas located near surface water systems, such as the Necropolis of Anghelu

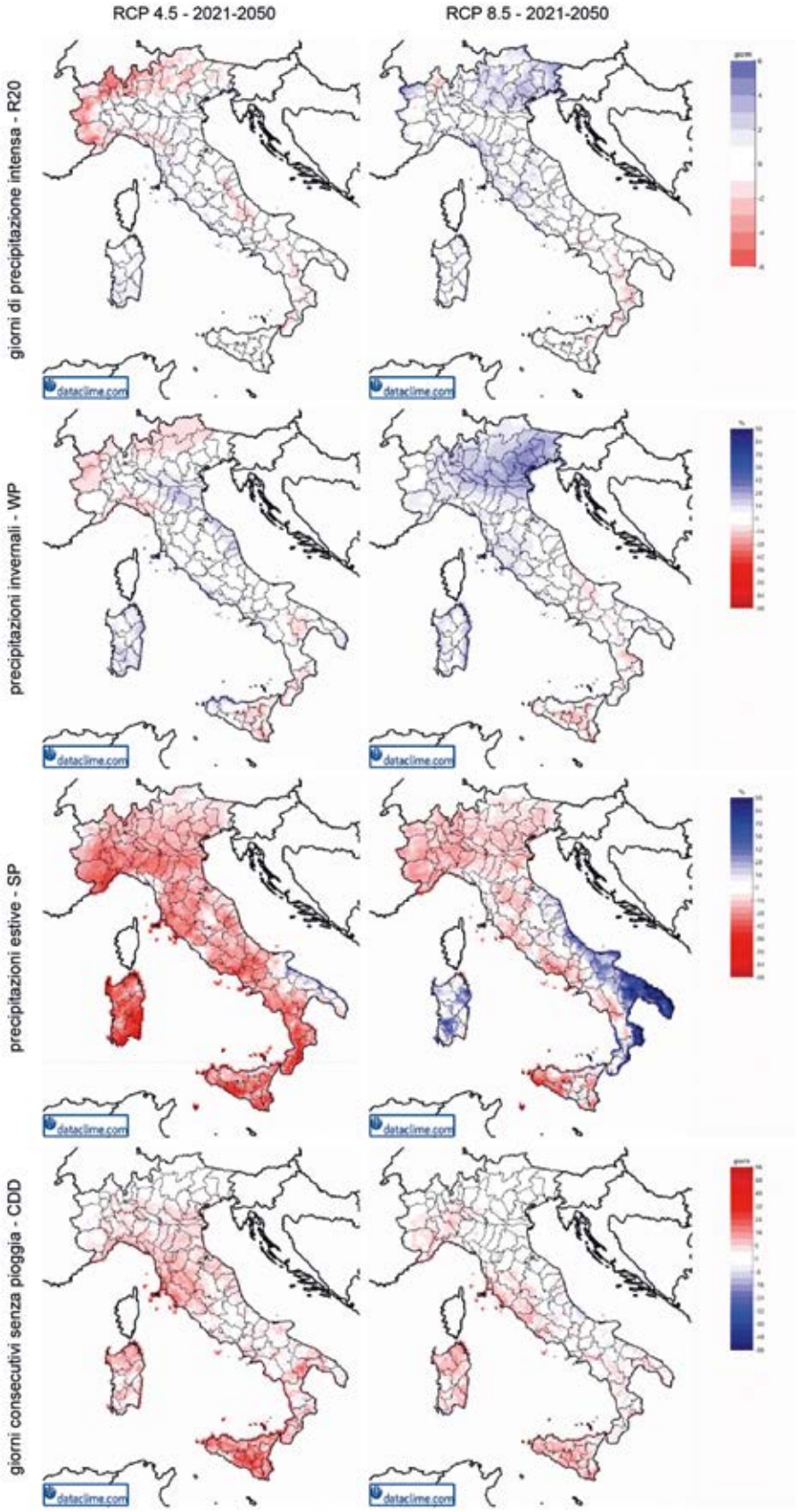


Fig.4.88 - Prediction of rainfall indicators based on RCP 4.5 and RCP 8.5 models for the period 2021-2050. (https://www.cmcc.it/it/scenari-climatici-per-litalia).

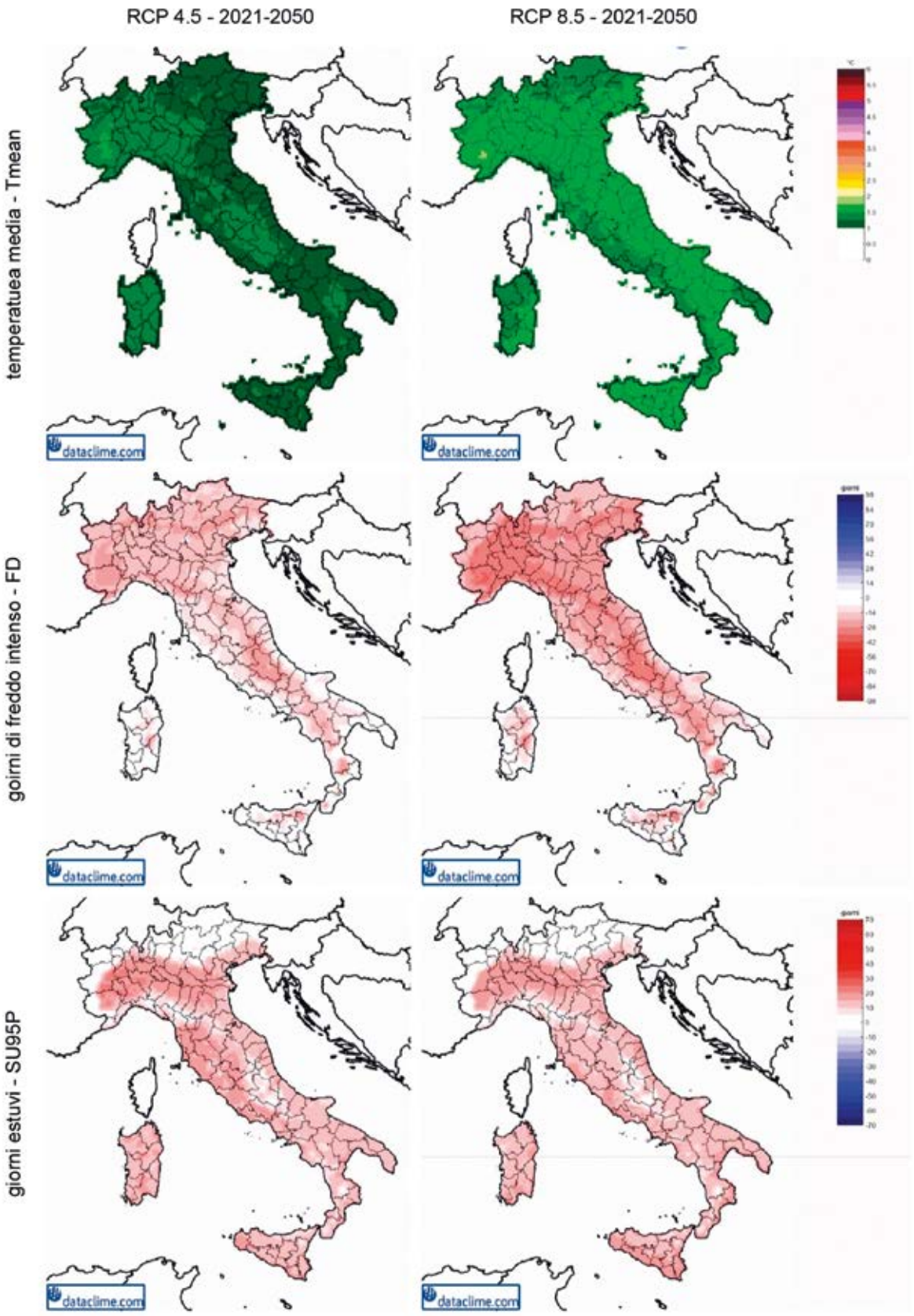


fig. 4.89 - Forecast of temperature indicators based on RCP 4.5 and RCP 8.5 models for the period 2021-2050 (https://www.cmcc.it/it/scenari-climatici-per-litalia).

Ruju (no. 1), that is located in the proximity of Rio Filibertu, the floods of which may trigger instability phenomena of embankment slopes, or for the complex of Monte d'Accoddi (no. 6), which could be involved in the overflows of Riu Ottava as a result of increased flood flows. For smaller water systems, such as streams in hilly or mountain environments, the increase in flow rates caused by particularly heavy rainfall, amplifies erosion that could trigger or re-trigger disruptive events near the rock walls where some of the sites rise, such as, for instance, at the Necropolis of Sos Furrighesos (no. 16), or include the possibility to access the site, as happens seasonally for the Necropolis of Sa Pala Larga (no. 15).
Extreme temperatures are a temporary event, identifying a period of time that is excessively hot or cold compared to the reference climatic patterns of an area. Under extreme heat conditions, stone materials can undergo degradation processes at macroscopic (cracks of variable depth, up to pulverization; color alterations) and microscopic (structural changes) levels. Major temperature fluctuations can also increase the vulnerability of materials to other long-term deterioration processes. The frequency of extreme heat waves has increased compared to average reference values, as well as new constant temperature records over the past four years, with worsening forecast scenarios.
Other extreme weather events include changes in wind speed and direction and wind gusts during storms, which can cause significant damage to exposed structures and trigger collapses. The two categories described above affect risk factors that can result in landslides or significant ecosystem change.
In those areas where there is a substantial overlap, interactions/interferences between different factors can increase the overall risk in those areas in different periods (multi-hazard analysis).

4.b (ii).7 Invasive/alien or over-abundant species

Sardinia is characterized by inland areas with little anthropization, which has allowed the conservation of endemic flora and fauna. Most allochthonous invasive plant species have been introduced as ornamental plants to beautify parks and gardens and are concentrated in the most anthropized areas of the island near the coast. The most common are: *carpobrotus acinaciformis, carpobrotus edulis, malephora crocea, acacia saligna, agave americana, agave fourcroydes, agave ferox, ailanthus altissima*.
In inland rural areas, where most of the nominated necropolis and monuments are located, there are few naturalized allochthonous species such as: *opuntia ficus-indica* and *robinia pseudoacacia* that, although they are now part of the Mediterranean landscape, because of their characteristics they can have a strong impact on the archaeological and architectural heritage if not properly managed. Only for the Sennori site located in an area used as an urban garden/orchard, fruit trees (also these species are allochthonous, but considered non-invasive) and *ailanthus altissima* are present and they spread seems, in any case, kept under control.

4.b (ii).8 Other critical points

The analysis of the natural system highlighted the vulnerabilities related to the relationship between humans and nature and the management and exploitation practices of the countryside. In general, the greatest risk may come from the failure to safeguard hypogea, where even large wild animals can find shelter. Their presence can damage surfaces both by leaving organic waste, moving inside them and passing through their hatches.

4.b (iii) Visitation, other human activities and sustainable use

4.b (iii).1 Accessibility and usability

Regarding the usability of sites, a distinction must be made between hypogeal sites and megalithic and built sites. The visitability of hypogea is a vulnerability-related element considering the physical access of visitors inside the tombs. Many of them are indeed hardly accessible or may only be accessed on all fours. This increases the risk of contributing, due to the scraping of surfaces as a result of passing through the narrow passageways, to the gradual erosion of hatches and engraved, relief or painted surfaces.
However, the extension and the typological and dimensional variety of the Tombs within the necropolis make it possible to describe different visitability levels for the hypogea, through free access to the larger ones for which the risk of compromise is low, and the restriction or contingency of entrances in situations with a wider risk of damage. In these cases, other communication systems, as provided for in the management plan, may be used. At present, for example, Tomb VII of Sa Pala Larga (no. 15), which is currently completed secluded by the protection institutions, will still be possible thanks to a 1:1 scale copy, currently under construction within the Mariani Park, for the benefit of a potentially large number of users.
In general, the nature of the monuments and their location in rural, including mountain, environmental settings will favor in most of the sites low-impact visitation, both considering the number of visitor and to the type of users who is informed and sensitive to the vulnerability of the artifacts.
Adequate surveillance or, at least, signs will need to be in place in built megalithic sites to raise awareness among visitors and avoid behaviors which may be detrimental to the conservation of the structures. Reference is made, for instance, to the sites in Monta Baranta (no. 4), Monte d'Accoddi (no. 6), Roccia dell'Elefante (no. 9), and Roccia del Toro near S. Andrea Priu (no. 14), where any attempts to climb the structures may cause landslides, collapses and fractures, endangering personal safety as well as the integrity of the monuments.

4.b (iii) Visitation, other human activities and sustainable use

The conservation of the monumental areas that make up the Art and Architecture in the Prehistory of Sardinia Serial Site depends, in addition

to the factors examined above, on how the archaeological areas are used which, overall, is limited to cultural and tourist purposes only. Indeed, for the monuments included in the list, uses other than purely cultural ones have not been registered, except for some limited cases of hypogea occasionally occupied by animals seeking shelter in the natural environment. At present, the limited flow of visitors affecting monumental areas does not pose a significant risk. In order to estimate the capacity of the sites to sustain an expected increase in the number of visitors if the sites become more popular, the current situation was examined, characterized by a certain heterogeneity, as shown by the table below.

No.	Site	Municipality	Average attendance	Notes
001	Anghelu Ruju	Alghero	18,000	Annual average
002	Puttu Codinu	Villanova Monteleone	2,000	Annual average
003	S'Incantu	Putifigari	NO.	
004	Monte Baranta	Olmedo	NO.	
005	Mesu 'e Montes	Ossi	NO.	
006	Sanctuary of Monte d'Accoddi	Sassari	13,119	2022 data
007	Su Crucifissu Mannu	Porto Torres	NO.	
008	Orto del Beneficio Parrocchiale	Sennori	NO.	During the "Calici di stelle" event, that takes place every year at the site, about 9,000 attendees were registered
009	Roccia dell'Elefante	Castelsardo	about 150,000	The estimate takes into account the approximately 100,000 annual people visiting Castelsardo, to whom all those crossing the busy road along the site must be added
010	Li Muri	Arzachena	10,146	2022 data

The number of visitors to each site was registered on an annual basis, through the examination of the statistical data provided by the managers of the individual complexes or by the municipal administrations of reference. The data examined refer in some cases to 2022 and in other cases to an annual average, and they were collected between March and June 2023. Although the overall reassembled framework is partial and affected by the consequences of the pandemic, it still offers a useful 'ground zero' for future monitoring.

In terms of use, there are three types of visitability, from which the availability of the data and the accuracy of the survey stem, somehow accurate only when some forms of management and/or museumisation applies.

For museum complexes for which a ticket is provided, the data is particularly precise as it refers to the number of documented accesses. That is the case for Anghelu Ruju (no. 1), Puttu Codinu (no. 2), Monte d 'Accoddi (no. 6), Li Muri (no. 10), S. Andrea Priu (no. 14), Pranu Mutteddu (no. 25), and Montessu (no. 26). In other cases, the presence is estimated through data relating to guided tours organized by local cultural endeavors or the organization of annual or seasonal events, such as concerts or theatrical performances. In those cases, the number is to

No.	Site	Municipality	Average attendance	Notes
011	Petroglyph Park	Cheremule	NO.	A minimum results directly from the attendance registered during two musical events which take place annually at the site and that host 500 people each
012	Sa Coveccada Dolmen	Mores	30,000	
013	Shelter of Luzzanas	Ozieri	NO.	
014	Sant'Andrea Priu	Bonorva	15,000	
015	Sa Pala Larga	Bonorva	NO.	
016	Sos Furrighesos	Anela	NO.	
017	Serra Linta	Sedilo	NO.	
018	Ispiluncas	Sedilo	2,000	
019	Necropolis of Mandras	Ardauli	NO.	
020	Brodu	Oniferi	NO.	
021	Istevene	Mamoiada	NO.	
022	Grotta Corbeddu	Oliena	NO.	
023	Menhir of Cuccuru Tundu	Villa Sant'Antonio	NO.	
024	Shelter of Su Forru de is Sinzurreddus and the stone tool workshops of Sennixeddu	Pau	5,000	
025	Pranu Mutteddu	Goni	12,000	
026	Necropolis of Montessu	Villaperuccio	7,022	2022 data

be understood as the 'minimum' to which the autonomous, occasional and undocumented accesses must be added. This is the case of the site in Pau (no. 004), a stop on the cultural tour organized by Museo dell'Ossidiana, or the monumental complex of Ispiluncas in Sedilo (no. 18), also included within a wider tourist tour that also includes the Nuraghe of Iloi, located within the same archaeological complex. These are small groups, with a very low impact compared to the potential risks associated with visitability.

Greater attention must be paid to events capable of attracting a large number of people, such as the 'Calici di Stelle' initiative in Orto del Beneficio Parrocchiale in Sennori (no. 008) where 9,000 attendees were registered, and the 'Time in Jazz' concerts in the Petroglyphs Park (no. 11), with 500 people attending the event. However, the authorization procedures required by Italian protection rules and regulations for the organization of those events guarantees that performances are organized in ways which are compatible with the monumental nature of the areas, introducing access limitations and requirements which are sufficient to prevent any damage to the artifacts. Indeed, the audience is hosted in open spaces far away from the monuments, which serve as

a backdrop and never the main stage of the performance.
The same happens on special days dedicated to the promotion of local heritage, such as 'Monumenti aperti' or seasonal events launched locally or connected to specific religious or civil festivities.
In general, it should be noted the strong seasonal variability of the presence of tourists in the areas, with summer peaks due to beach tourism, and a substantial absence of visitors in winter.

Month	Arrivals	Attendance
January	33,323	80,936
February	44,447	98,570
March	55,956	124,620
April	166,103	414,726
May	322,883	959,109
June	590,374	2,476,473
July	757,141	3,919,759
August	778,851	4,440,118
September	600,056	2,638,794
October	254,923	936,657
November	59,258	168,035
December	56,874	130,325

DISTRIBUTION OF TOURIST FLOWS IN 2022
Data from the Sardinian Tourist Observatory

This is particularly evident near coastal areas with a high tourist vocation, such as the Municipalities of Alghero (no. 1), Villanova Monteleone (no. 2), Sassari (no. 6), Porto Torres (no. 7) Castelsardo (no. 009), Arzachena (no. 10).
At all sites not yet subject to constant management, attendance could not be monitored. However, these is generally occasional presence and a very small amount, especially in mountain sites which may be hardly reached or simply poorly promoted and signposted.
A case of its own is Grotta Corbeddu in Oliena (no. 22), only occasionally protected, but a destination for groups of hikers of various kinds (*speleologists, trekkers, Nordic walking enthusiasts, etc.*) who visit the popular Lanaitto Valley, where the site is located, visited by a constant flow of people, that is currently difficult to monitor.
However, in all the sites, the inclusion in the WHL is expected to result in a significant but not worrying increase in attendance, the effect of which will be mitigated by the implementation of works and protection actions and forms of 'support' to visits designed on a case-by-case basis, depending on the specific vulnerabilities of each site, as already specified in the analytical sheets. This is, for example, the case in Monte Baranta (no. 4) for which a ticketing and guided tour system are be-

ing designed and built to welcome the many potential visitors who are expected to access the site thanks to the nearby train stationo. The same is expected to happen soon also for the Shelter of Luzzanas (no. 13), where the planned pathway works to connect the site to the more popular Romanesque Church of Sant'Antioco di Bisarcio, will lead to a sharp increase of visitors.
The risk factor to be taken into account also in the monitoring phase will therefore be not the number of visitors, but how the monuments will be visited and accessed. The following must be put in place:

- Specific limitations on the access of some hypogea to avoid the degradation of door edges and the damage of the pictorial surfaces due to rubbing and subsequent detachment.
- Access ban for vaults which are brittle or rendered such by the presence of fractures or other environmental risks, such as those caused by infesting vegetation
- Quotas on the number of accesses and the time spent inside the hypogea.
- Any other guidelines included in the conservation recommendations already listed in the monument sheets.

4.b (iii). Acts of vandalism

Overall, the sites have not been vandalized on purpose. The effects of misuse are limited to their use in ancient times and as rural shelter by shepherds, with fires being ignited and surfaces covered with carbon black encrustations. However, some reuses can become additional tangible and intangible values, such as the reuse of the *domus de janas* of Moseddu in the Petroglyph Park (no. 11) and Sant'Andrea Priu (no. 14) in the Christian age.
The only signs of vandalistic paintings are found in the *domus de janas* of Orto del Beneficio Parrocchiale in Sennori (no. 8) and in the Corbeddu Cave in Oliena (no. 22). Signs of deliberate removal of rock carvings are also visible in the Necropolis of Sos Furrighesos in Anela (no. 16). However, such situations do not undermine the universal value of the necropolis as a whole.

DOMUS DE JANAS
ARTE E ARCHITETTURA NELLA PREISTORIA DELLA SARDEGNA.

PATRIMONIO MUNDIAL • WORLD HERITAGE • PATRIMOINE MONDIAL

5

ART AND ARCHITECTURE IN THE PREHISTORY OF SARDINIA

The domus de janas

PROTECTION AND MANAGEMENT OF THE NOMINATED PROPERTY

PROTECTION AND MANAGEMENT OF THE NOMINATED PROPERTY

5.a - Stakeholders

The monuments that make up the serial site "Art and Architecture in the Prehistory of Sardinia. The *Domus de janas*" involve territories, institutions and organization with different natures, activities and functions, responsibilities and purposes.
Centro Studi Identità e Memoria (CESIM/APS) proposed, promoted and coordinated the inscription procedure, involving local institutions and the General Secretariat - UNESCO Office, whose collaboration was fundamental for the nomination of the property.
The protection, conservation and promotion of these monuments is exercised by the Ministry of Culture and its peripheral bodies: the Regional Secretariat of the Ministry of Culture for Sardinia, the Superintendence of Archaeology, Fine Arts and Landscape for the Metropolitan City of Cagliari and the Provinces of Oristano and Sud Sardegna, the Superintendence of Archaeology, Fine Arts and Landscape for the Provinces of Sassari, Olbia-Tempio and Nuoro and the Regional Directorate of Museums of Sardinia.
All local authorities responsible for the administration and management of the territories are concerned, in particular:

- The Autonomous Region of Sardinia.
- The provinces of Sassari, Nuoro, Oristano and Sud Sardegna.
- The Municipalities of:
    - Alghero
    - Anela
    - Ardauli
    - Arzachena
    - Bonorva
    - Castelsardo
    - Cheremule
    - Goni
    - Mamoiada
    - Mores
    - Nughedu Santa Vittoria
    - Oliena
    - Olmedo
    - Oniferi
    - Ossi

- Ozieri
- Pau
- Porto Torres
- Putifigari
- Sassari
- Sedilo
- Sennori
- Villa Sant'Antonio
- Villanova Monteleone
- Villaperuccio

- The buffer zones also include the territories of the Municipalities of:
  - Aidomaggiore
  - Ales
  - Bono
  - Dorgali
  - Macomer
  - Monteleone Rocca Doria
  - Narcao
  - Neoneli
  - Tergu
  - Uri
  - Villa Verde.

A memorandum of understanding was signed in Cagliari, on 21 December 2023, to establish the collaboration, with the common will to support the inscription and the sharing of the objectives of the Management Plan. The signatory bodies are:

- The Autonomous Region of Sardinia.
- The provinces of Sassari, Nuoro, Oristano and Sud Sardegna.
- The Municipalities which manage the areas included in the core zones and buffer zones.
- The "Rete dei Comuni delle *Domus de janas*" network (see 5.a.iii);
- The Regional Secretariat of the Ministry of Culture for Sardinia.
- The Superintendence of Archaeology, Fine Arts and Landscape for the Metropolitan City of Cagliari and the Provinces of Oristano and Sud Sardegna;
- The Superintendence of Archaeology, Fine Arts and Landscape for the Provinces of Sassari, Olbia-Tempio and Nuoro.
- The Regional Directorate of Museums in Sardinia.
- Centro Studi Identità e Memoria (CeSIM/APS).

Please find attached a copy of the Memorandum of Understanding signed by the interested Parties (see 7.b, Annex no. 1).

The drafting of the inscription proposal was participated by freelancers and researchers (archaeologists, architects, geologists, engineers, petrographers, restorers and computer scientists) working for the Universities of Sassari and Cagliari; they are part of the technical-scientific committee created for the appointment.

Component parts also include the owners of the land where some of the candidate monuments are located (v. 5.a.III).
A detailed list of stakeholders, with specific roles and responsibilities, is contained in the Management Plan (see 7.b, Annex no. 1).

5.a (i) Ownership and inhabitants

Category of land ownership
The areas where the components of the serial site rest are located on publicly owned land (State or other local authorities: Autonomous Region of Sardinia, Provinces or Municipalities) or private property (natural or legal persons).
The detailed data referring to the names of the individual private properties is not available.
The legal nature of the property is listed below for each component part, taking into consideration the perimeter of *core zones* and *buffer zones*.

ID #	Component part name	Region, Municipality and Province	Category of land ownership CORE	Category of land ownership CORE
001	Necropolis of Anghelu Ruju	Alghero (Sassari)	Public and Private	Public and Private
002	Necropolis of Puttu Codinu	Villanova Monteleone (Sassari)	Public	Public and Private
003	Necropolis of Monte Siseri or S'Incantu	Putifigari (Sassari)	Private	Public and Private
004	Fortified complex of Monte Baranta	Olmedo (Sassari)	Public and Private	Public and Private
005	Necropolis of Mesu 'e Montes	Ossi (Sassari)	Public and Private	Public and Private
006	Archaeological complex of Monte d'Accoddi	Sassari (Sassari)	Public and Private	Public and Private
007	Necropolis of Su Crucifissu Mannu	Porto Torres (Sassari)	Public and Private	Public and Private
008	Domus de janas of Orto del Beneficio Parrocchiale	Sennori (Sassari)	Public and Private	Public and Private
009	Tomba dell'Elefante	Castelsardo (Sassari)	Private	Public and Private
010	Necropolis of Li Muri	Arzachena (Sassari)	Public	Public and Private
011	Petroglyph Park	Cheremule (Sassari)	Public	Public and Private
012	Dolmen of Sa Coveccada	Mores (Sassari)	Public and Private	Public and Private
013	Shelter of Luzzanas	Ozieri (Sassari)	Private	Public and Private
014	Necropolis of Sant'Andrea Priu	Bonorva (Sassari)	Private	Public and Private
015	Necropolis of Sa Pala Larga	Bonorva (Sassari)	Public	Public and Private
016	Necropolis of Sos Furrighesos	Anela	Private	Public and Private
017	Village of Serra Linta	Sedilo (Oristano)	Private	Public and Private
018	Necropolis of Ispiluncas	Sedilo (Oristano)	Public	Public and Private
019	Necropolis of Mrangias/ Mandras	Ardauli (Oristano)	Private	Public and Private
020	Necropolis of Brodu	Oniferi (Nuoro)	Private	Public and Private
021	Necropolis of Istevéne	Mamoiada (Nuoro)	Private	Public and Private
022	Grotta Corbeddu	Oliena (Nuoro)	Public	Public and Private
023	Menhir of Cuccuru Tundu	Villa Sant'Antonio (Oristano)	Public	Public and Private
024	Stone tool workshops of Sennixeddu and Shelter of Su Forru de is Sinzurreddus	Pau (Oristano)	Public	Public and Private
025	Archaeological Park of Pranu Mutteddu	Goni (Sud Sardegna)	Public and Private	Public and Private
026	Necropolis of Montessu	Villaperuccio (Sud Sardegna)	Public and Private	Public and Private

Number of inhabitants living within the nominated property and any buffer zone(s)

The table shows the number of inhabitants registered by the ISTAT census for the year 2021, present in the census areas included within the *core zones* and *buffer zones.*

It is specified that, with regard to the *buffer zones,* different ISTAT census zones overlap. Therefore, it was necessary to estimate the number of inhabitants who live in those areas.

ID #	Component part name	Region, Municipality and Province	Inhabitants living within the component part (2021)	Inhabitants in the buffer zone	Total inhabitants
001	Necropolis of Anghelu Ruju	Alghero (Sassari)	0	128	128
002	Necropolis of Puttu Codinu	Villanova Monteleone (Sassari)	0	0	0
003	Necropolis of Monte Siseri or S'Incantu	Putifigari (Sassari)	0	115	115
004	Fortified complex of Monte Baranta	Olmedo (Sassari)	0		
005	Necropolis of Mesu 'e Montes	Ossi (Sassari)	0	'0	0
006	Archaeological complex of Monte d'Accoddi	Sassari (Sassari)	0	557	557
007	Necropolis of Su Crucifissu Mannu	Porto Torres (Sassari)	0		
008	Domus de janas of Orto del Beneficio Parrocchiale	Sennori (Sassari)	0	1573	1573
009	Tomba dell'Elefante	Castelsardo (Sassari)	0	2454	2454
010	Necropolis of Li Muri	Arzachena (Sassari)	0	0	0
011	Petroglyph Park	Cheremule (Sassari)	0	0	0
012	Dolmen of Sa Coveccada	Mores (Sassari)	0	1	1
013	Shelter of Luzzanas	Ozieri (Sassari)	0	63	63
014	Necropolis of Sant'Andrea Priu	Bonorva (Sassari)	0	6	6
015	Necropolis of Sa Pala Larga	Bonorva (Sassari)	0		
016	Necropolis of Sos Furrighesos	Anela	0	21	21
017	Village of Serra Linta	Sedilo (Oristano)	0	72	72
018	Necropolis of Ispiluncas	Sedilo (Oristano)	0		
019	Necropolis of Mrangias/ Mandras	Ardauli (Oristano)	0	0	0
020	Necropolis of Brodu	Oniferi (Nuoro)	0	45	45
021	Necropolis of Istevéne	Mamoiada (Nuoro)	0	124	124
022	Grotta Corbeddu	Oliena (Nuoro)	0	0	0
023	Menhir of Cuccuru Tundu	Villa Sant'Antonio (Oristano)	0	3	3
024	Stone tool workshops of Sennixeddu and Shelter of Sinzurreddus	Pau (Oristano)	0	84	84
025	Archaeological Park of Pranu Mutteddu	Goni (Sud Sardegna)	0	0	0
026	Necropolis of Montessu	Villaperuccio (Sud Sardegna)	0	12	12
	Total estimated population		0	5258	5258

5.a (ii) - Indigenous Peoples

The component parts of the serial site nominated for inscription do not refer to lands, territories or resources owned by indigenous peoples.

5.a (iii) Participation

The nomination process, initiated and coordinated by CESIM/APS, saw the participation of bodies with different roles and functions.
First of all, the collaboration with the General Secretariat – UNESCO Office and the peripheral Offices of the Ministry of Culture was fundamental, as well as the "Rete dei Comuni delle *Domus de janas*" network which includes, in addition to the municipalities that manage the territories where the nominated monuments and monumental complexes and the buffer zones (see 5.a.i) are located, also other Municipalities that support the project despite not having been included in the 2021 *Tentative List*.

In addition to the local authorities, the Universities of Sassari and Cagliari, Lower and Upper Secondary Schools (v. 5.i), some of the cooperatives working in the nominated archaeological areas and parks, the Chambers of Commerce of Cagliari and Oristano, Mountain Communities and the "Unione dei Comuni" network were involved.
Finally, it is worth highlighting the interest of national and local cultural associations and organizations, which resulted in conferences and dissemination meetings: Club per l'UNESCO in Cagliari, Touring Club in Cagliari, Rotary Club in Cagliari and Sassari, Inner Wheel Italia - Club di Sassari, Università per la Terza Età in Sassari, Alghero and Tempio, Gruppo Archeologico Kalaritano (GAK) and Soroptimist Club Cagliari (v. 5.i).
The stakeholders were involved in different ways, depending on their role, their function in the territory and on the nominated property: conferences, collaborations, online videoconferences and individual meetings.

5.b - Protective designation

The serial "*Art and Architecture in the Prehistory of Sardinia. The domus de janas*" nominated property is divided into 26 component parts, located throughout the regional territory, all included in the archaeological heritage category, as well as a large part of the monuments that are located in their immediate vicinity, within the 22 buffer zones identified; these are therefore protected and managed according to constitutional laws (Constitution and the Special Statute of the Autonomous Region of Sardinia), international agreements signed by Italy, EU rules and regulations, state laws, in particular the Italian Code of Cultural Heritage and Landscape (Legislative Decree 42/2004 as amended and supplemented), regional rules and state, regional and local government regulations.
The legal basis underpinning their protection by the State is art. 9 of the Italian Constitution, according to which "*The Republic... protects the landscape and the artistic heritage of the Nation*". Art. 117, as amended in 2001, regulates the legislative power, which is only granted to the State with regard to the protection of cultural heritage, while the promotion of cultural heritage is a concurrent responsibility with the Regional Authorities.
With regard to the Special Statute of the Autonomous Region of Sardinia, approved by Constitutional Law of 26 February 1948, already before the constitutional reform of 2001, art. 5 provided for the possibility to supplement and implement rules in the field of antiquities and fine arts with respect to state legislation.
The main state legislation on cultural heritage, consisting of the Code of Cultural Heritage and Landscape (Legislative Decree 42/2004 as amended and supplemented, see Annex 2) assigns the protection functions to the Ministry for Cultural Heritage and Activities (now the Ministry of Culture).
In Part Two of the Code:

- the forms of protection are regulated: verification of cultural interest and declaration of particular cultural interest, that is, the forms of direct protection of assets, and the requirements of indirect protection, that is, distances, measures and other rules to protect the integrity, decorum and perspective of the property;
- the supervisory and inspection powers of the same Ministry are established;
- the protection and conservation measures are defined, in particular subject to the authorization of the Superintendencies, peripheral bodies of the Ministry, the execution of works and works of any kind related to cultural heritage.

From a planning point of view, reference is made to the instruments of government of the territory provided for by the same Legislative Decree no. 42/2004 and by the Urban Planning Law no. 1150 of 1942 that is still in force.
With regard to protected natural areas, reference is made to the regulatory instruments provided for by Law no. 394 of 1991, the rule governing the establishment and management of such areas.

The 26 component parts of the "Art and Architecture in the Prehistory of Sardinia. The *domus de janas*" nominated property are located across

the regional territory with greater density in the central-northern area, where most of the decorated *domus de janas* are found.
The considerable spread on the regional territory involves a very heterogeneous variety of contexts, in terms of the type of heritage, landscapes and contexts concerned.
Most of the component parts concern also considerably extended extra-urban contexts, where farming landscapes sometimes prevail, sometimes hilly ones, moving towards coastal ones; in many cases these are areas of environmental and naturalistic value.
In only one case, in the *domus de janas* of Orto del Beneficio Parrocchiale-Sennori, the property is included in the urban area.
The boundaries of the nominated component parts and buffer zones have been identified, based on their representative capacity with respect to site values, but also according to the protection measures already in place on the territories concerned, defining, if applicable, unique buffer areas for adjacent properties as in the cases of the Sanctuary of Monte d 'Accoddi (Sassari) – Necropolis of Su Crucifissu Mannu (Porto Torres), Fortified Complex of Monte Baranta (Olmedo) – S'Incantu (Putifigari), Necropolis of Pala Larga – Necropolis of Sant'Andrea Priu (Bonorva) and Necropolis of Ispiluncas - Settlement of Serra Linta (Sedilo).
The protection of the site is ensured for all its components by the numerous regulatory, planning and regulatory measures described below and their applications, detailed in **paragraph 5.c**.

All the elements included in the national cultural heritage are identified and protected by the Code of Cultural Heritage and Landscape (Legislative Decree 42/2004 as amended and supplemented), which incorporates, unifies and integrates all the previous laws on the protection, conservation and promotion of Italian archaeological, historical, architectural, environmental and landscape heritage.
The 26 component parts of the serial nominated property are included in the category of archaeological heritage, as are most of the monuments located in their immediate vicinity and in the 22 buffer zones identified.
The publicly-owned archaeological heritage is considered a cultural asset by law, and therefore subject to the protection system regulated by the Code. This system protects these assets from alteration or damage and ensures their inalienability in principle (art. 54); any conservation action on them can only be carried out by the competent authority, the MiC (Ministry of Culture), or in any case must be authorized by it (art. 21). The privately-owned archaeological heritage is subject to the same protection system after the issue of a declaration of particular cultural interest by the MiC, according to the procedures and types of decree described below.
The types of direct and indirect constraint pursuant to Part Two of the Cultural Heritage Code that are in force in a diversified manner on the 26 component parts of the nominated property are the following:
1) the assets of public property or equivalent, described in art. 10 par. 1, i.e. belonging to the State, to the regions, to other territorial public bodies, as well as to any other public body and institution and to private non-profit legal persons, including civilly recognized ecclesiastical bodies and that are of artistic, historical, archaeological interest, are protected by *law*. They may be subjected, either at the request of a party or ***ex officio***, to the verification of cultural interest pursuant to art. 12 of the Code;

2) the privately-owned heritage described in art. 10 par. 3, that is, belonging to private parties, to be protected pursuant to Part Two of the Code must instead be of major interest, and decreed through an explicit declaration of cultural interest referred to in art. 13 of the Code and according to the procedure regulated by articles 14-16.
These two categories relate to direct binding measures, while the third category relates to indirect requirements. The indirect protection requirements pursuant to Part Two of the Code are instead regulated by art. 45, according to which the MiC has the right to prescribe distances, measures and other rules aimed at preventing the integrity of immovable cultural property from being endangered, its perspective or light from being damaged or its environmental and decoration conditions from being altered.

Compatibility of use must be guaranteed for these goods; if these conditions are not met, the Code provides for specific penalties (Part IV).
Given the importance of this heritage, moreover, the law establishes that archaeological assets are protected *ope legis* from the moment they are uncovered (see Articles 90-91 of the Code) and they immediately become part of the State property or the Unavailable State Heritage (pursuant to Articles 822 and 826 of the Civil Code).
Research activities and archaeological investigations are reserved to the State, pursuant to Articles 88-89 of the Code; the Ministry may in any case license their execution to other public or private entities (generally University Institutes, museums and research institutions), once the following is assessed:

- The consistency of the project with institutional purposes and with the planning of archaeological research carried out by the territorially competent Institute.
- Their compatibility with the needs of territorial protection.
- The impact on the management of the area of competence, especially with regard to conservation issues.
- The economic immediate and future sustainability of the costs that could arise for the Offices, especially with regard to the issues of conservation of structures and finds.
- In the case of requests for the renewal of a license, including the assessment of the state of conservation of the site, structures and movable artifacts, the protection measures adopted at the end of the campaign, with particular reference to the fulfillment of the obligations imposed in the Concession Decree, the diligent restoration of the state of the sites and the conservation and safeguarding of the artifacts found.

As for the architectural assets, present in some of the 22 buffer zones relevant to the 26 candidate sites such as the Basilica of Sant'Antioco di Bisarcio (in relation to area 013, Shelter of Luzzanas-Ozieri), they are also considered of cultural interest ope legis if they are on a publicly-owned property; for those located on a privately-owned property, the declaration of cultural interest must be issues in order to be subject to the provisions of the Code.
In general, architectural assets are subject to the same protection and

conservation provisions as archaeological assets: the assets cannot be destroyed, deteriorated, damaged or used for incompatible purposes. Conservation actions not implemented by the State must be authorized by the MiC pursuant to Article 21 of the Code.
Assets of cultural interest in private property may be sold, but the State may exercise its right of preemption for purchase.

Within the boundaries of the 26 component parts of the nominated property and the 22 buffer zones, almost all the types of the landscapes identified by the Code are present in a diversified manner. The provisions currently in force on landscape protection are described in Part Three - Title I of the Code which, following the 2008 amendment (Legislative Decree no. 63/2008), transposed the regulatory framework of the "EU Landscape Convention" adopted by the Committee of Ministers of the Council of Europe on 19 July 2000 and implemented at national level with Law 14 of 09/01/2006.
In art. 131, paragraph 1 (Landscape), the Code provides the current concept of landscape, borrowing it from art. 1 of the EU Landscape Convention, defining it as "*the expressive territory of identity, whose character derives from the action of natural, human factors and their interrelations*".
The priority objective of the Code is the "*protection of the landscape, in relation to those aspects and characters that form a material and visible representation of national identity, as an expression of cultural values*" (Article 131, paragraph 2); it defines its principles and rules, specifically regulating its implementation.
With regard to the protection of the landscape, the provisions of the Landscape Plans always prevail over the provisions contained in the territorial impact planning acts provided for by the sector regulations, including those of the management bodies of protected natural areas.
Any intervention intended to be carried out on buildings or areas subject to landscape protection pursuant to art. 146 of the Code, present within the 26 component parts of the Nominated Property and its buffer zones, must be previously submitted to the authorization of the competent administration, which must express its opinion on the landscape compatibility of the proposed intervention.
The landscape authorization is regulated by art. 146 of the Code, where paragraph 1 states that "*the owners, holders or tenants in any capacity of properties or areas of landscape interest, protected by law, under the terms of art. 142* ("areas protected by law"), *or under the terms of articles 136* (""Properties and areas of considerable public interest"), *143* ("Landscape plan"), *par. 1, lett. D) and 157* ("Notifications made, lists drafted, measures and deeds issued pursuant to the previous legislation"), *may not destroy them or introduce modifications that harm the landscape values covered by the protection*".

The types of landscape identified by Articles 134, 136 and 142 of the Code and included in the boundaries of the nominated property are the following:
1) *the "Building and areas of considerable public interest" (art. 136),* identified by the Regional Commissions (Article 137) and approved by specific Ministerial Decrees:
a) Immovable assets that have major characteristics of natural beauty,

geological singularity or historical memory, including monumental trees.
b) Villas, gardens and parks, not protected by the provisions of Part Two of the Code, which are distinguished by their uncommon beauty.
c) Complexes of immovable assets that make up a characteristic appearance with aesthetic and traditional value, including old towns and centres.
d) Scenic beauties and also viewpoints, accessible to the public, from which one can view such beauties.

2) *the "Areas protected by law"* , referred to in Article 142:
a) Coastal territories within 300 metres from the shoreline, also for high land over the sea.
(b) Territories adjacent to lakes included in a strip of land 300 meters from the shoreline, also for high land over the sea.
c) Rivers, streams, waterways included in the lists provided for by the consolidated text of the provisions of the law on water and electrical systems, and the related banks or feet of the embankments for a strip of 150 meters each.
f) National or regional parks and reserves and the external protection territories of parks.
g) Territories covered by forests and woods, even if traveled or damaged by fire, and those subject to reforestation restrictions.
h) The areas allocated to agricultural universities and areas subject to civic use.
i) Wetlands.
m) Areas of archaeological interest.

3) The *"further properties and areas specifically identified under Article 136 and subject to protection by the landscape plans provided for in Articles 143 and 156"* (art. 134).
The regions, together with the MiC, subject the territory to specific regulations of use through the drafting and approval in co-planning of the Regional Landscape Territorial Plans, provided for by art. 143 of the Code. The landscape plan, identifying the "landscape heritage" (referred to in art. 136), the "areas protected by law"(referred to in art. 142) and any further contexts to be subjected to specific protection and use measures (art. 134), determines the necessary measures for the correct inclusion, in the landscape context, of actions to transform the territory, in order to achieve a sustainable development of the areas concerned (art. 143 paragraph 1 letter h).

Planning - Protective measures
The control and management of territorial transformations are entrusted to a series of urban planning tools corresponding to the national administrative subdivision of the territory, hierarchically divided into regions, provinces, metropolitan areas and municipalities.
At the broader territorial, regional level, the Code provides for landscape planning (PPR), which has priority over all other levels of planning. At intermediate, provincial and territorial levels, reference is made to a mainly strategic planning entrusted to the Provincial Urban Plan/Territorial Coordination Plan (PUP/PTC). For the lowest level, the municipal level,

planning is implemented through a series of local government instruments that take different names depending on the size of the Administration and the reference period (Regulatory Plan, Municipal Urban Plan, Construction Plan, etc.). Other essential tools at the local level are the Detailed Plans, tools for implementing the General Plans, and the Building Regulations, a technical and regulatory document necessary to guarantee the quality and compliance with health and hygiene standards of new buildings and building transformations.

Regional Landscape Plan (PPR)

As far as landscape planning is concerned, Sardinia has in force the Regional Landscape Plan, approved by Decree of the President of the Region on September 7, 2006, a territorial government tool that pursues the purpose of preserving, protecting, promoting and handing down to future generations the environmental, historical, cultural and settlement identity of the Sardinian territory, protecting and safeguarding the cultural and natural landscape and its biodiversity, and ensuring the preservation of the territory and promotes forms of sustainable development in order to improve its quality.

Provisional Hydrogeological Basin Structure Plan (PAI)

The Provisional Hydrogeological Basin Structure Plan (P.A.I.), drawn up pursuant to Law no. 183/1989 and Decree-Law no. 180/1998, and approved by decree of the President of the Autonomous Region of Sardinia no. 67 of 10/07/2006, is a very important cognitive, regulatory and technical-operational tool for the planning and programming of actions and rules of use aimed at the conservation, defense and promotion of the soil, and the prevention of the hydrogeological risk identified on the basis of the physical and environmental characteristics of the regional territory.
The boundaries identified within the P.A.I. mark the areas characterized by elements of hydrogeological danger, due to geomorphological instability or hydraulic problems, to which the safeguard rules contained in the Implementation Rules of the Plan apply.

Territorial Coordination Plan

The Provincial Urban Plan/Territorial Coordination Plan (PUP/PTC), defined by art. 20 of Legislative Decree 267/2000 and Articles 4 and 16 of Regional Law 45/89 "Rules for the use and protection of the regional territory", was preceded by the signing of the Memorandum of Understanding between the Region and the Provinces (November 1996) where contents, objectives and phases were established to implement the plan by the Provincial Plan Offices as a strategic tool between regional and municipal levels with the task of aligning the urban planning tools issued by the municipalities and providing strategic and structural guidelines at the territorial level.
Following the adoption of the Regional Landscape Plan (PPR) and concerning the coastal area only, the PUPs were adjusted according to the PPR with regard to homogeneous coastal areas between the years 2011-2013.

Municipal Urban Plans

By their Municipal Urban Plans, the Municipalities ensure the bal-

anced expansion of towns based on regulations and regional constraints; the PUC regulates the use of the agricultural territory and the parts of the territory intended for the development of tourism and industrial and hand-made production, it sets rules for the recovery and use of the existing building heritage and it regulates the provision of social and infrastructural services of the municipal territory. When adapting their general and implementing urban planning tools to the Regional Landscape Plan, Sardinian Municipalities contribute to specifying the contents of the PPR, providing a major contribution to the planning tool on a regional scale. In this phase, it will be possible to check the analyses carried out on a regional scale and make the necessary adjustments to a more detailed scale that can guarantee the correct implementation of the PPR guidelines. Therefore, at this stage the PPR is to be adjusted to the local scale. To achieve this, during the drafting of the PUC, the Municipality suggests to map settlement processes that will integrate the contents of the PPR, with the support of the Regional Plan Office. Such a cartography, supported by in-depth studies and analysis according to the criteria described in the NTA of the PPR for the various topics, will serve as the final draft of the PPR at the local level. The final draft will become effective pursuant to art. 31 LR 7/2002 if it is assessed as consistent with the PUC. This procedure will essentially iron out the discrepancies between the regional planning tool and the local urban planning tools as highlighted by the Municipalities.
Specifically, there are very few municipal administrations which have already completed the adjustment process with the final adoption.

Environmental Safeguard Measures

As already mentioned, the main regulatory instrument governing the creation and management of protected natural areas is Law no. 394 of 1991. Article 1 of the law establishes that its main objective is to promote the creation and management of these areas to "guarantee and promote in a coordinated manner the conservation and promotion of the country's natural heritage".
As a result, several protected areas and parks have been established across the country, some of which fall within the context of this particular site. These include national and regional parks. State-owned national parks are necessary to ensure the protection of unique species or environments across the country, where human presence is limited to controlled use. Similarly, the regional parks, although part of the protected natural areas in Italy, include lands, rivers, lakes and, possibly, stretches of sea in front of the coast, with an environmental and naturalistic value that represents a homogeneous system identified by the natural assets of the place, by the landscape and artistic values and by the cultural traditions of the local communities.
The parks are included in the Official List of Protected Natural Areas (Elenco ufficiale delle aree naturali protette, EUAP), a list drawn up and periodically updated by the Ministry of Ecological Transition, formerly known as the Ministry of the Environment and the Protection of the Land and the Sea.
The State and the Regions have established management tools for the protection and conservation of natural heritage, in line with the most recent principles of the European Union and the United Nations. These tools aim

at respecting and protecting aquatic life and life on land, underlining the need to protect, restore and use the Earth's ecosystem in a sustainable way. The Agenda's strategy, among other things, aims at putting in place effective and immediate actions to reduce the degradation of natural environments, stop the destruction of biodiversity and protect endangered species. As a result, all parks have general regulations governing permitted activities and sectoral regulations. Almost all parks have the same type of zoning: each zone provides corresponding protection and prohibitions.
The level of protection depends on the scientific value of the area to be protected: the greater the environmental value, the greater the protection (there are, therefore, different types of areas in the parks, from A to D to adjacent areas). Protected Natural Areas include other areas, generally natural monuments, suburban or provincial parks and oases of environmental associations such as WWF or Legambiente, managed publicly or privately. In addition to these, the areas identified by the Regions and Provinces are part of the Natura 2000 Network, the ecological network spread throughout the territory of the European Union, which in Italy includes Sites of Community Interest (SCIs), Special Protection Areas (SPAs) and Special Areas of Conservation (SACs).
Natura 2000 is an ecological network that branches out in all EU Member States and is the main tool for the conservation of biodiversity: it was established with Directive 92/43/EEC "Habitats" to preserve particular natural habitats characterized by rare or endangered flora and fauna.
The Network consists of Sites of Community Interest (SCIs) identified by the Member States and then designated as Special Areas of Conservation (SACs); it also includes Special Protection Areas (SPAs) established pursuant to Directive 2009/147/EC "Birds" specifically for the conservation of wild birds.
Natura 2000 areas guarantee the protection of habitats also taking into account economic, social, cultural and regional and local peculiarities.
The Directive recognizes the value of areas where the centuries-old presence of human beings and their activities has made it possible to maintain a balance between anthropic and natural activities; it also recognizes the importance of the elements of the landscape that play a connecting role for wild flora and fauna.

Among the components of the candidate serial site, the buffer areas and some of the *nominated properties* of the following heritage are included in the SCIs, SACs and SPAs:

1. Necropolis of Sos Furrighesos di Anela - “Catena del Marghine e del Goceano” SCI/SAC, code ITB011102.
2. Necropolis of Ispiluncas and Settlement of Serra Linta – "Media Valle del Tirso e Altopiano di Abbasanta - Rio Siddu" SCI/SAC, code ITB031104.
3. Grotta Corbeddu, "Supramonte di Oliena, Orgosolo e Urzulei - Su Sercone" SCI/SAC/SPA, code ITB022212.
4. Shelter of Luzzanas, "Piana di Ozieri, Mores, Ardara, Tula e Oschiri" SPA, code ITB013048.
5. Necropolis of Sant'Andrea Priu and Necropolis of Sa Pala Larga, "Piana di Semestene, Bonorva, Macomer e Bortigali" SPA, code ITB023050.

All protected natural areas are included in the Regional Landscape Plan. This last aspect further strengthens the level of protection of the territories involved since the activities allowed within the parks must comply with internal regulations and any proposed action must be subject to the landscape authorization procedure.
Finally, in relation to regional laws, it should be noted that Grotta Corbeddu, being a karst cave, is protected by Regional Law no. 7 of 4 August 2004.

The maps listed below illustrate the safeguard measures for each component part, ensuring its protection. In particular:

- in the **5.b xx - 1** series maps, the Cultural and Landscape Protection Measures at the regional level have been identified, representing the Protection Measures such as: Italian Leg. Decree 42/2004 - Articles 136, 157, Legislative Decree 42/2004 - Article 142, Legislative Decree 42/2004 - Article 143, 2017 Sardinian Regional Heritage Registry (with a 100 m buffer zones on specific assets) etc.
- in the **5.b xx - 2** series maps, environmental protection measures have been identified, such as: National Parks of Sardinia, SPAs – Special Protection Areas, SICs - Sites of Community Interest, IBAs - Important Bird Areas, Landscape component parts with environmental value (from PPR) and Areas exposed to Hydrogeological Risk.
- in the **5.b xx - -3** series maps, further environmental protection measures have been identified by Municipal Urban Plans. The maps were made only for the municipalities that have completed the adjustment of their PUC to the PPR, and have adopted the final version of their PAI.

The diverse safeguarding tools often overlap in the territories, bringing protection to very high levels.

Map no. 5.b 01 - 1-Cultural and landscape protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 001. Necropolis of Anghelu Ruju, Alghero
Map no. 5.b 01 - 2-Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 001. Necropolis of Anghelu Ruju, Alghero
Map no. 5.b 01 - 3-Additional protection measures according to the Municipal Urban Plans. Component part: 001. Necropolis of Anghelu Ruju, Alghero

Map no. 5.b 02 - 1-Cultural and landscape protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 002. Necropolis of Puttu Codinu-Villanova Monteleone
Map no. 5.b 02 - 2-Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 002. Necropolis of Puttu Codinu-Villanova Monteleone

Map no. 5.b 03 - 1-Cultural and landscape protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component parts: 003. Necropolis of Monte Siseri/S'Incantu, Putifigari - 004. Archaeological complex of Monte Baranta-Olmedo

Map no. 5.b 03 - 2-Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component parts: 003. Necropolis of Monte Siseri/S'Incantu, Putifigari - 004. Archaeological complex of Monte Baranta-Olmedo

Map no. 5.b 04 - 1-Cultural and landscape protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 005. Necropolis of Mesu 'e Montes, Ossi
Map no. 5.b 04 - 2-Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 005. Necropolis of Mesu 'e Montes, Ossi

Map no. 5.b 05 - 1-Cultural and landscape protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component parts: 006. Sanctuary of Monte d'Accoddi, Sassari - 007 Su Crucifissu Mannu, Porto Torres
Map no. 5.b 05 - 2-Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component parts: 006. Sanctuary of Monte d'Accoddi, Sassari - 007 Su Crucifissu Mannu, Porto Torres
Map no. 5.b 05 - 3-Additional protection measures according to the Municipal Urban Plans. Component parts: 006. Sanctuary of Monte d'Accoddi, Sassari - 007 Su Crucifissu Mannu, Porto Torres

Map no. 5.b 06 - 1-Cultural and landscape protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 008. Domus de janas of Orto del Beneficio Parrocchiale, Sennori
Map no. 5.b 06 - 2-Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 008. Domus de janas of Orto del Beneficio Parrocchiale, Sennori
Map no. 5.b 06 - 3-Additional protection measures according to the Municipal Urban Plans. Component part: 008. Domus de janas of Orto del Beneficio Parrocchiale, Sennori

Map no. 5.b 07 - 1-Cultural and landscape protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 009. Roccia dell'Elefante, Castelsardo
Map no. 5.b 07 - 2-Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 009. Roccia dell'Elefante, Castelsardo

Map no. 5.b 08 - 1-Cultural and landscape protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 010. Necropolis of Li Muri, Arzachena
Map no. 5.b 08 - 2-Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 010. Necropolis of Li Muri, Arzachena

Map no. 5.b 09 - 1-Cultural and landscape protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 011. Petroglyph Park, Cheremule
Map no. 5.b 09 - 2-Environmental protection measures enforced ac-

cording to Legislative Decree 42/2004 and the RPP. Component part: 011. Petroglyph Park, Cheremule

Map no. 5.b 10 - 1-Cultural and landscape protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 012. Dolmen of Sa Coveccada, Mores
Map no. 5. b 10 - 2-Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component parts: 012. Dolmen of Sa Coveccada, Mores

Map no. 5.b 11 - 1-Cultural and landscape protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 013. Shelter of Luzzanas, Ozieri
Map no. 5.b 11 - 2-Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 013. Shelter of Luzzanas, Ozieri
Map no. 5.b 12 - 1-Cultural and landscape protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 014. Necropolis of Sant'Andrea Priu, Bonorva - 015, Necropolis of Sa Pala Larga, Bonorva
Map no. 5.b 12 - 2-Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 014. Necropolis of Sant'Andrea Priu, Bonorva - 015, Necropolis of Sa Pala Larga, Bonorva

Map no. 5.b 13 - 1-Cultural and landscape protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 016. Necropolis of Sos Furrighesos, Anela
Map no. 5.b 13 - 2-Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 016. Necropolis of Sos Furrighesos, Anela

Map no. 5.b 14 - 1-Cultural and landscape protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 017. Village of Serra Linta, Sedilo - 018.Necropolis of Iloi Ispiluncas, Sedilo
Map no. 5.b 14 - 2-Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 017. Village of Serra Linta, Sedilo - 018.Necropolis of Iloi Ispiluncas, Sedilo

Map no. 5.b 15 - 1-Cultural and landscape protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 019. Necropolis of Madras/Mrandas, Ardauli
Map no. 5.b 15 - 2-Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 019. Necropolis of Madras/Mrandas, Ardauli

Map no. 5.b 16 - 1-Cultural and landscape protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 020. Necropolis of Brodu, Oniferi
Map no. 5.b 16 - 2-Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part:

020. Necropolis of Brodu, Oniferi

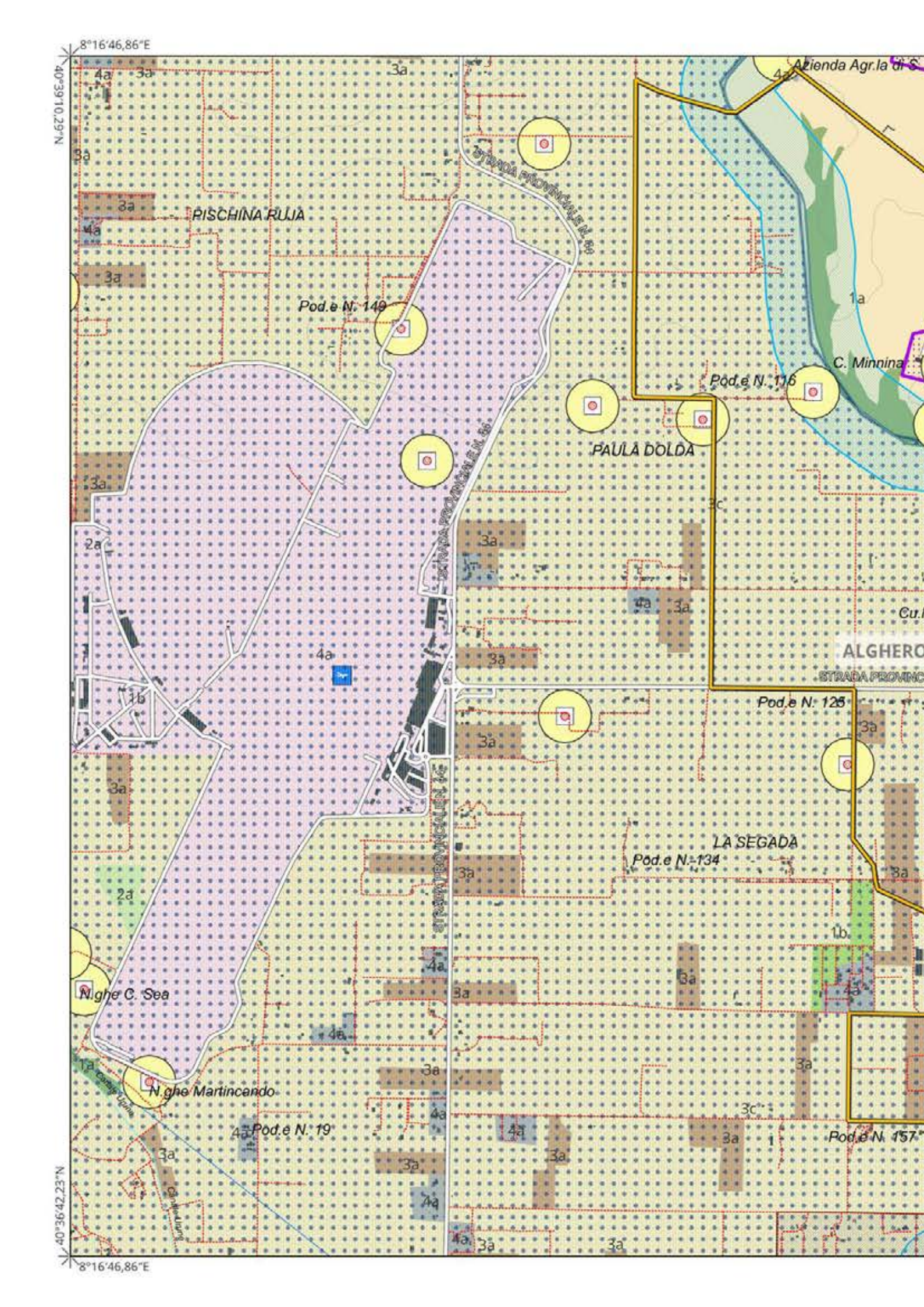
Map no. 5.b 17 - 1-Cultural and landscape protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 021. Necropolis of Istevéne, Mamoiada
Map no. 5.b 17 - 2-Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 021. Necropolis of Istevéne, Mamoiada

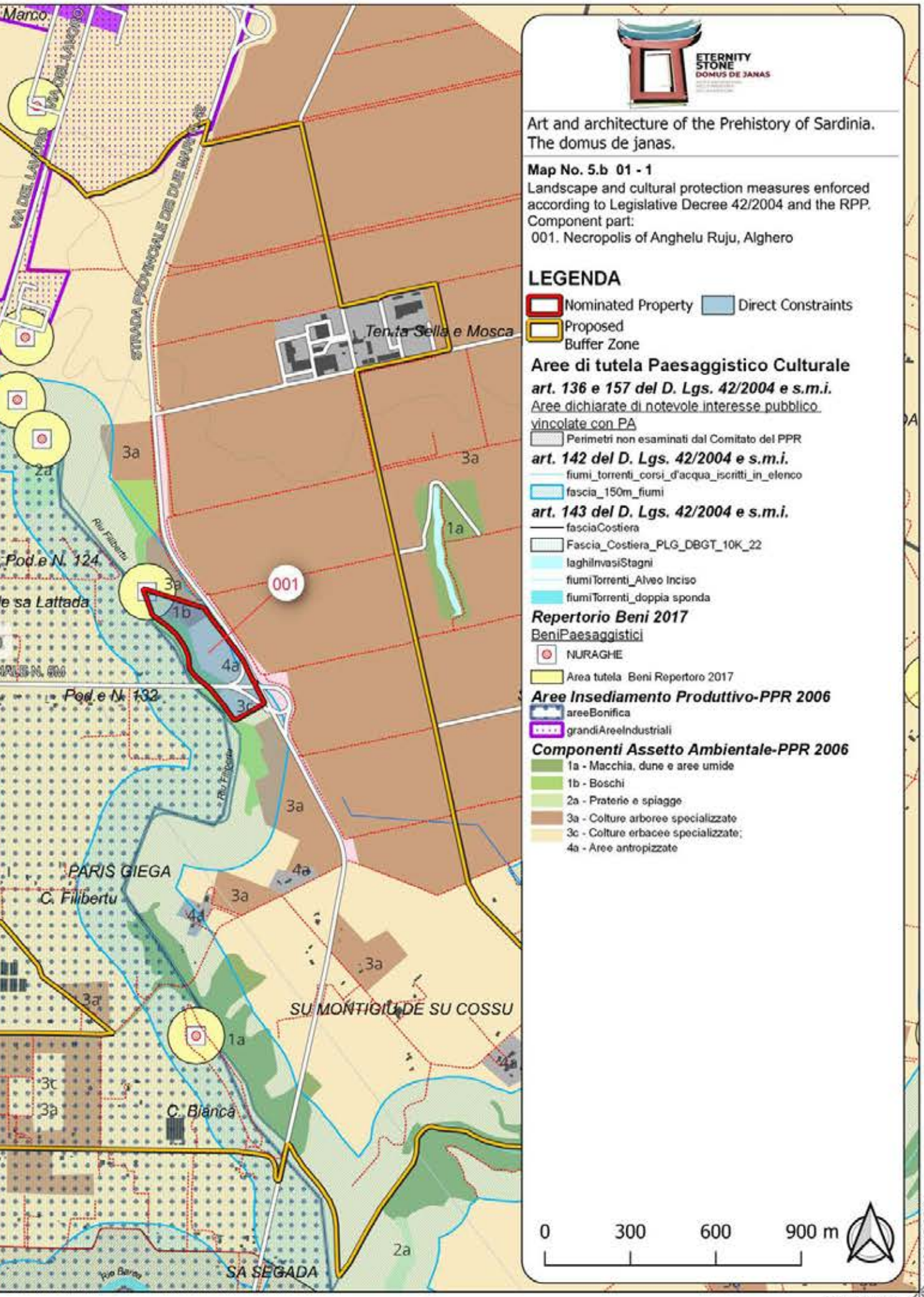
Map no. 5.b 18 - 1-Cultural and landscape protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 022. Cave of Corbeddu, Oliena
Map no. 5.b 18 - 2-Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 022. Cave of Corbeddu, Oliena

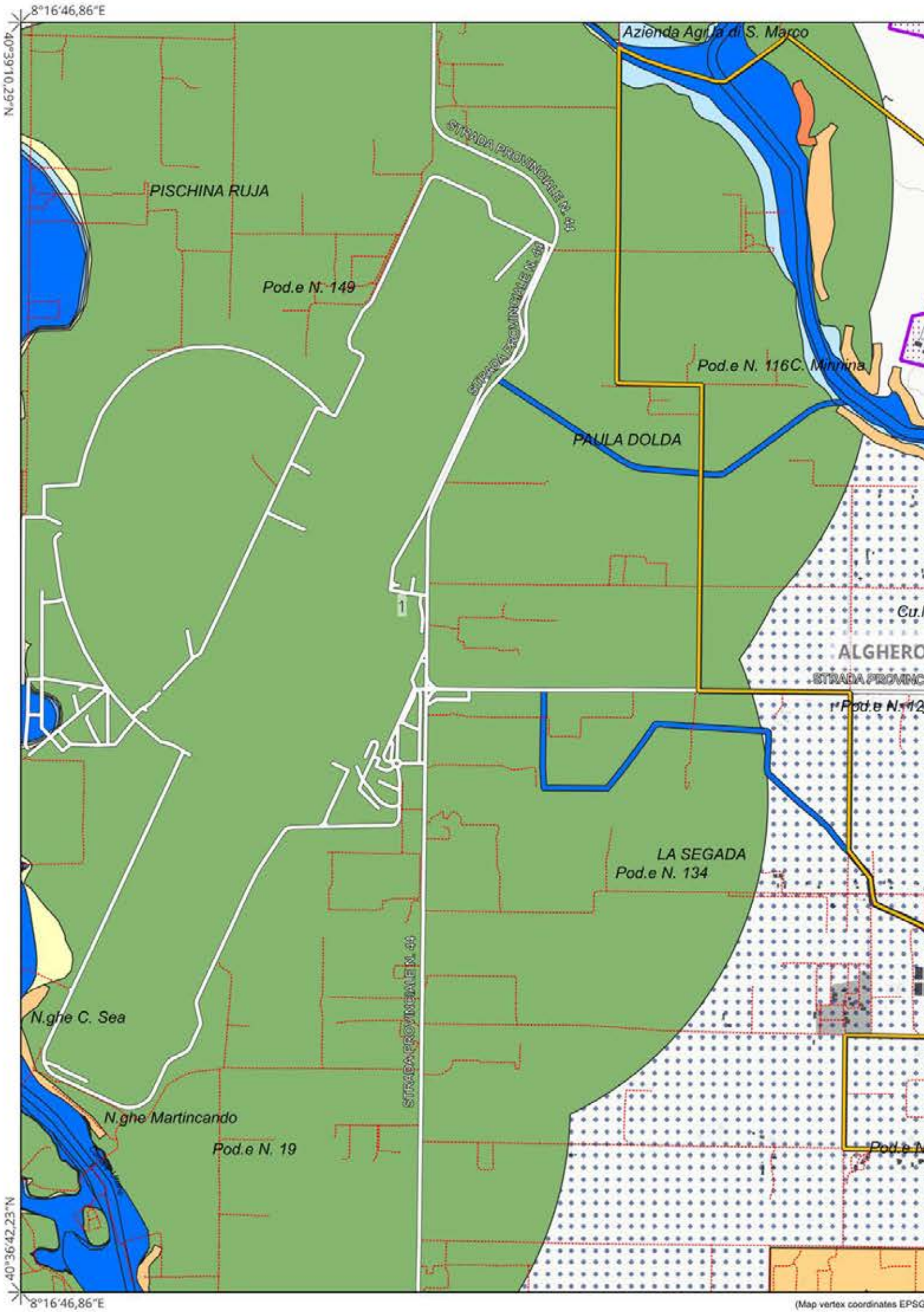
Map no. 5.b 19 - 1-Cultural and landscape protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 023. Menhir of Cuccuru Tundu, Villa Sant'Antonio
Map no. 5.b 19 - 2-Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 023. Menhir of Cuccuru Tundu, Villa Sant'Antonio

Map no. 5.b 20 - 1-Cultural and landscape protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 024. Stone tool workshops of Sennixeddu and Shelter of Su Forru de is Sinzurreddus, Pau
Map no. 5.b 20 - 2-Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 024. Stone tool workshops of Sennixeddu and Shelter of Su Forru de is Sinzurreddus, Pau
Map no. 5.b 21 - 1-Cultural and landscape protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 025. Pranu Mutteddu, Goni
Map no. 5.b 21 - 2-Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 025. Pranu Mutteddu, Goni

Map no. 5.b 22 - 1-Cultural and landscape protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 026. Necropolis of Montessu, Villaperuccio
Map no. 5.b 22 - 2-Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP. Component part: 026. Necropolis of Montessu, Villaperuccio


8°16'46,86"E
40°39'10,29"N
40°36'42,23"N
8°16'46,86"E
PISCHINA RUJA
Pod.e N. 149
STRADA PROVINCIALE N. 69
PAULA DOLDA
Pod.e N. 116
C. Minnina
ALGHERO
Pod.e N. 125
LA SEGADA
Pod.e N. 134
N.ghe C. Sea
N.ghe Martincando
Pod.e N. 19
Pod.e N. 157
3a
4a
1a
1b
2a
3c


ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 5.b 01 - 1
Landscape and cultural protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
001. Necropolis of Anghelu Ruju, Alghero
LEGENDA
Nominated Property
Direct Constraints
Proposed Buffer Zone
Aree di tutela Paesaggistico Culturale
art. 136 e 157 del D. Lgs. 42/2004 e s.m.i.
Aree dichiarate di notevole interesse pubblico vincolate con PA
Perimetri non esaminati dal Comitato del PPR
art. 142 del D. Lgs. 42/2004 e s.m.i.
fiumi_torrenti_corsi_d'acqua_iscritti_in_elenco
fascia_150m_fiumi
art. 143 del D. Lgs. 42/2004 e s.m.i.
fasciaCostiera
Fascia_Costiera_PLG_DBGT_10K_22
laghiInvasiStagni
fiumiTorrenti_Alveo Inciso
fiumiTorrenti_doppia sponda
Repertorio Beni 2017
BeniPaesaggistici
NURAGHE
Area tutela Beni Repertoro 2017
Aree Insediamento Produttivo-PPR 2006
areeBonifica
grandiAreeIndustriali
Componenti Assetto Ambientale-PPR 2006
1a - Macchia, dune e aree umide
1b - Boschi
2a - Praterie e spiagge
3a - Colture arboree specializzate
3c - Colture erbacee specializzate;
4a - Aree antropizzate
0
300
600
900 m
Tenta Sella e Mosca
Pod.e N. 124
Pod.e N. 132
PARIS GIEGA
C. Filibertu
SU MONTIGIU DE SU COSSU
C. Bianca
SA SEGADA
001
40°36'42.23"N
8°21'22.47"E



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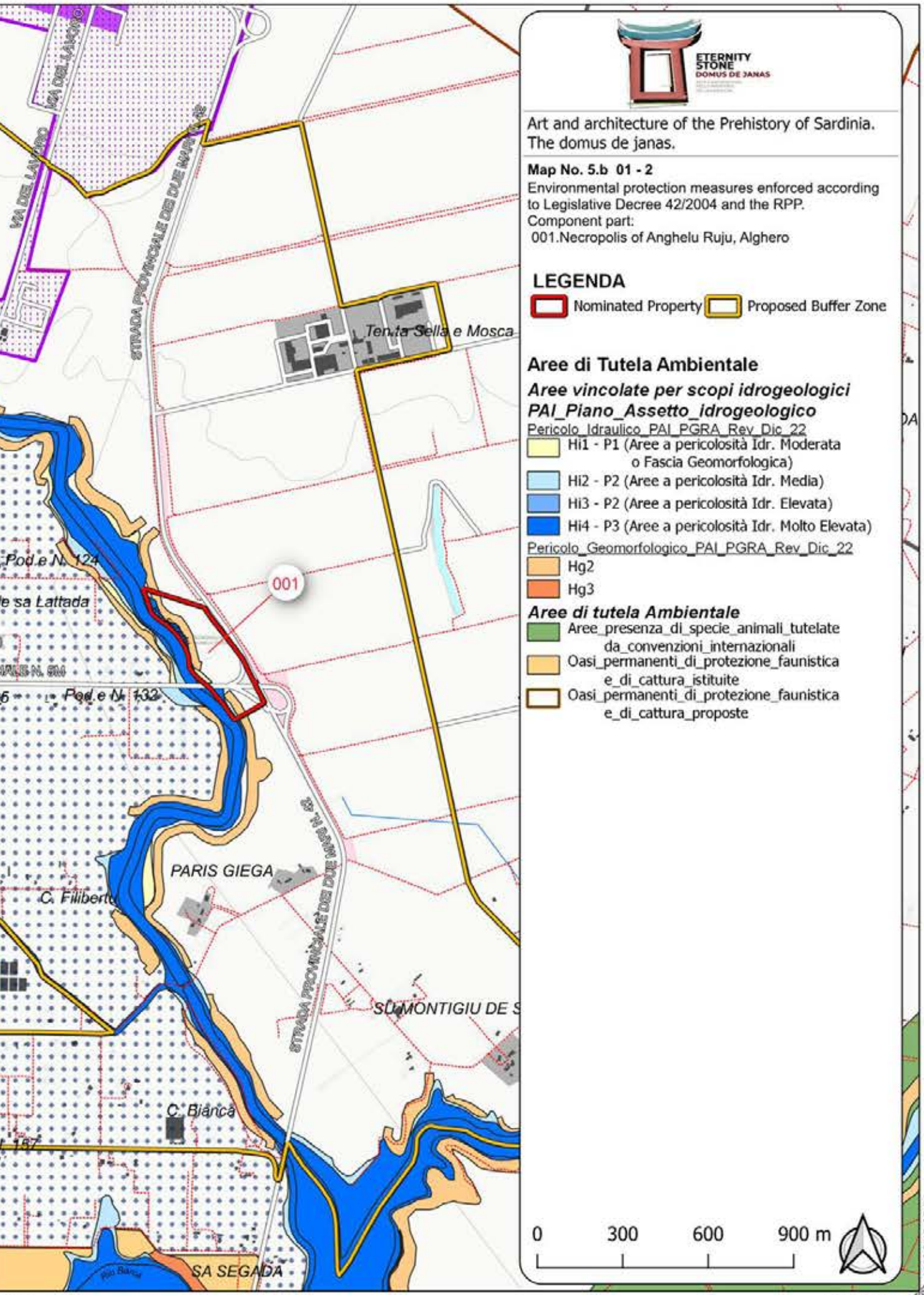
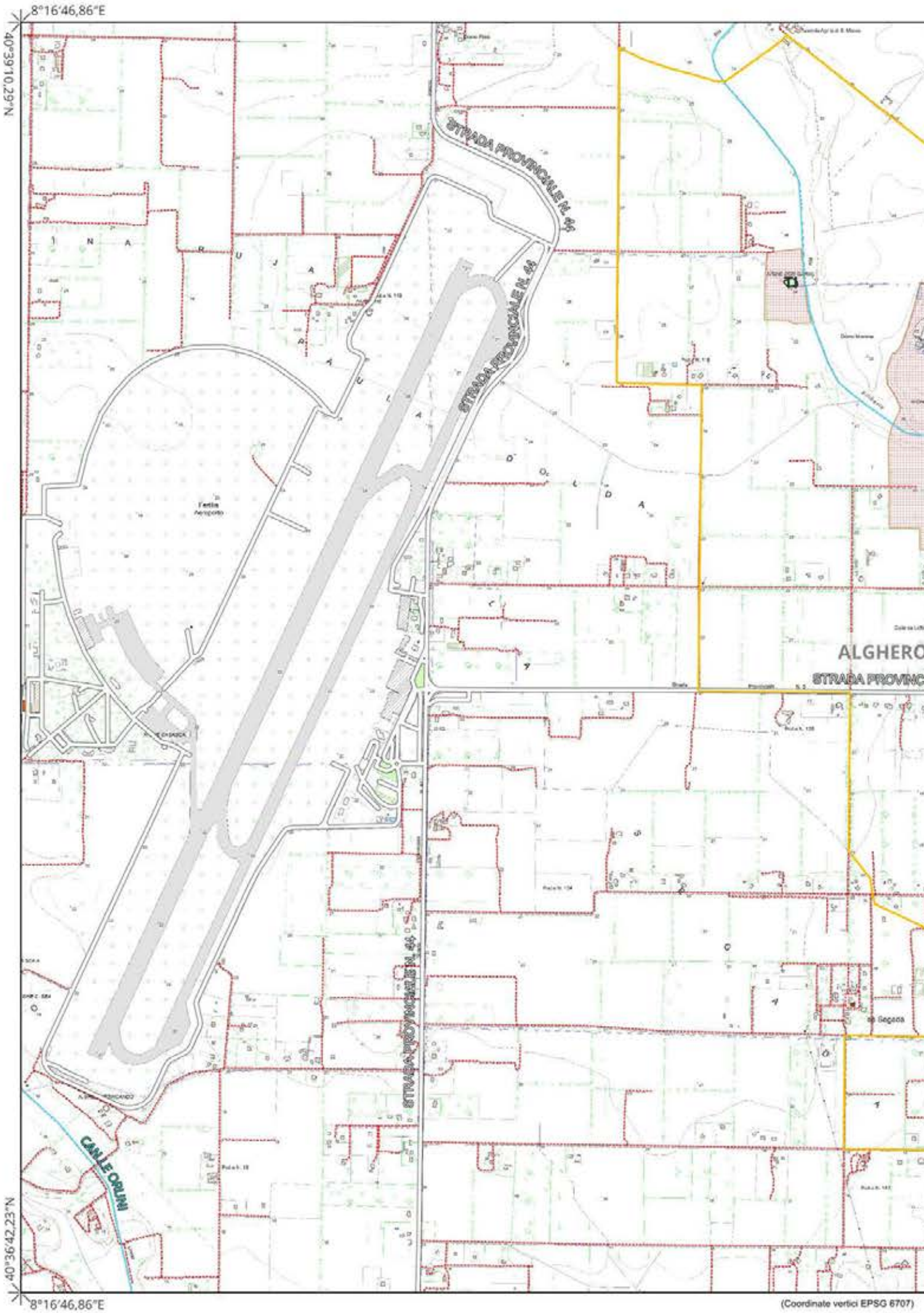

VIA DEL LAVORO
STRADA PROVINCIALE DEI DUE NURAGHI
Tenta Sella e Mosca
001
Pod.e N. 124
e sa Lattada
Pod.e N. 132
PARIS GIEGA
C. Filiberto
SU MONTIGIU DE S
C. Bianca
SA SEGADA
ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 5.b 01 - 2
Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
001.Necropolis of Anghelu Ruju, Alghero
LEGENDA
Nominated Property
Proposed Buffer Zone
Aree di Tutela Ambientale
Aree vincolate per scopi idrogeologici
PAI_Piano_Assetto_idrogeologico
Pericolo_Idraulico_PAI_PGRA_Rev_Dic_22
Hi1 - P1 (Aree a pericolosità Idr. Moderata o Fascia Geomorfologica)
Hi2 - P2 (Aree a pericolosità Idr. Media)
Hi3 - P2 (Aree a pericolosità Idr. Elevata)
Hi4 - P3 (Aree a pericolosità Idr. Molto Elevata)
Pericolo_Geomorfologico_PAI_PGRA_Rev_Dic_22
Hg2
Hg3
Aree di tutela Ambientale
Aree_presenza_di_specie_animali_tutelate da_convenzioni_internazionali
Oasi_permanenti_di_protezione_faunistica e_di_cattura_istituite
Oasi_permanenti_di_protezione_faunistica e_di_cattura_proposte
0
300
600
900 m
40°36'42.23"N
8°21'22,47"E



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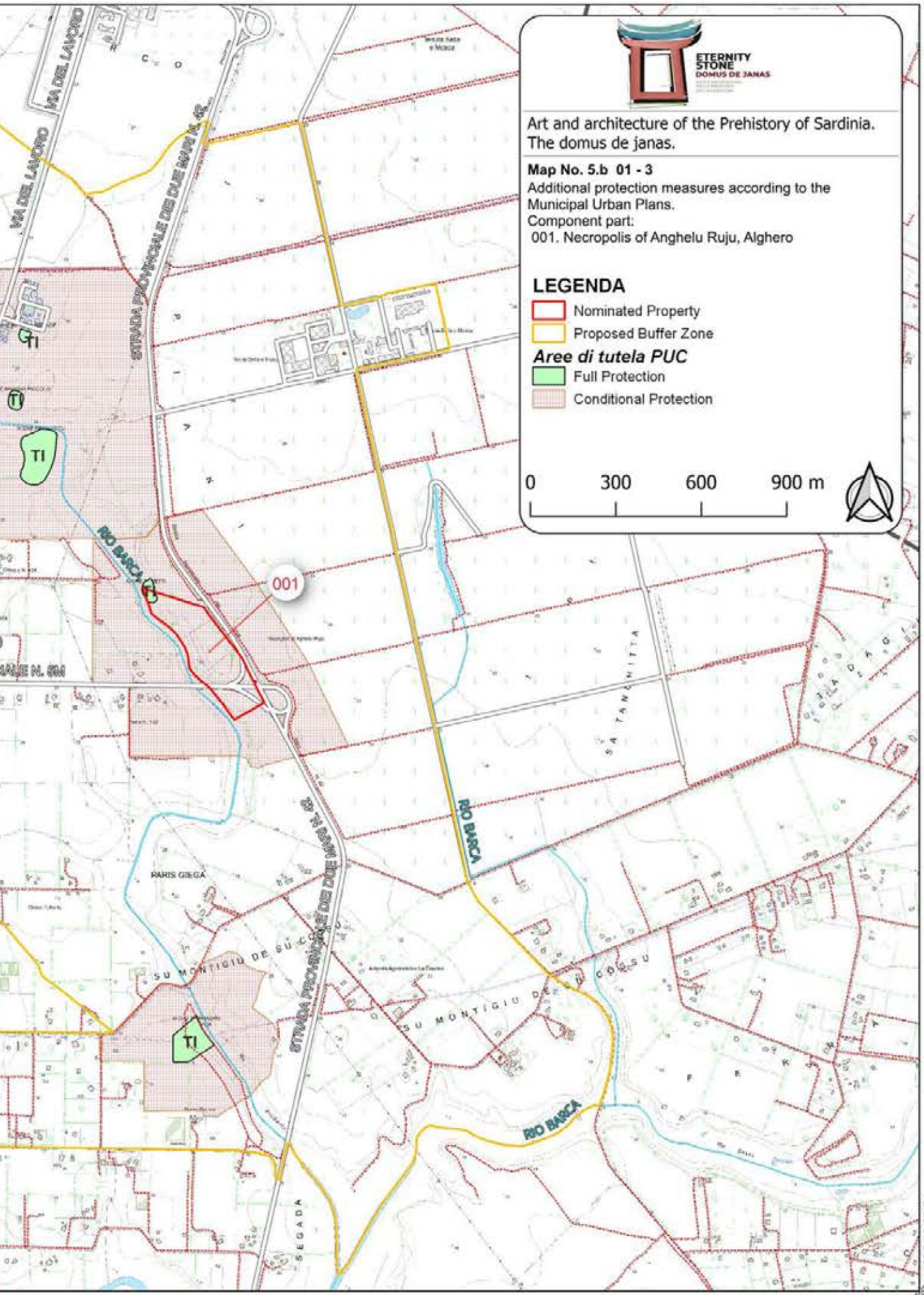
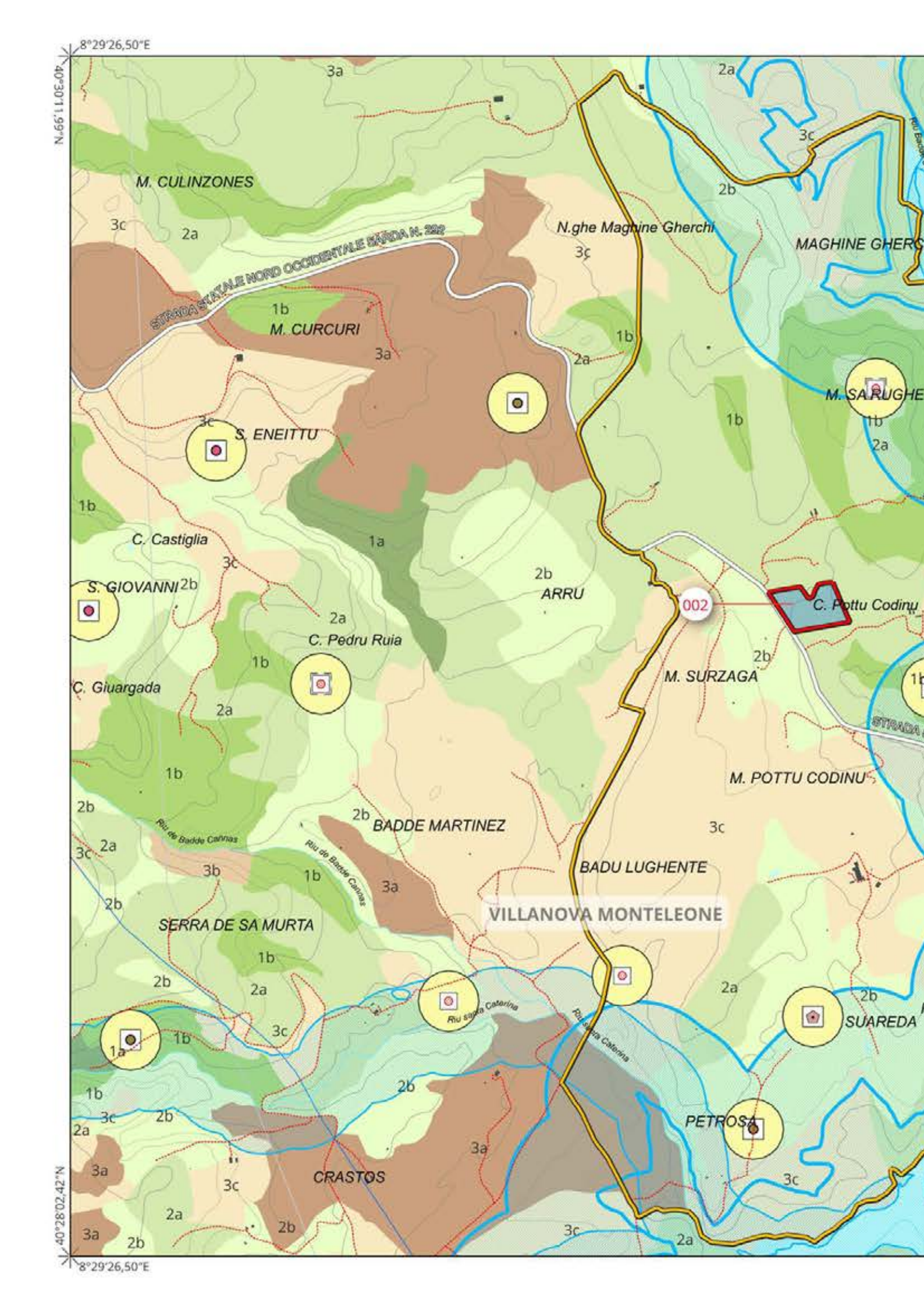
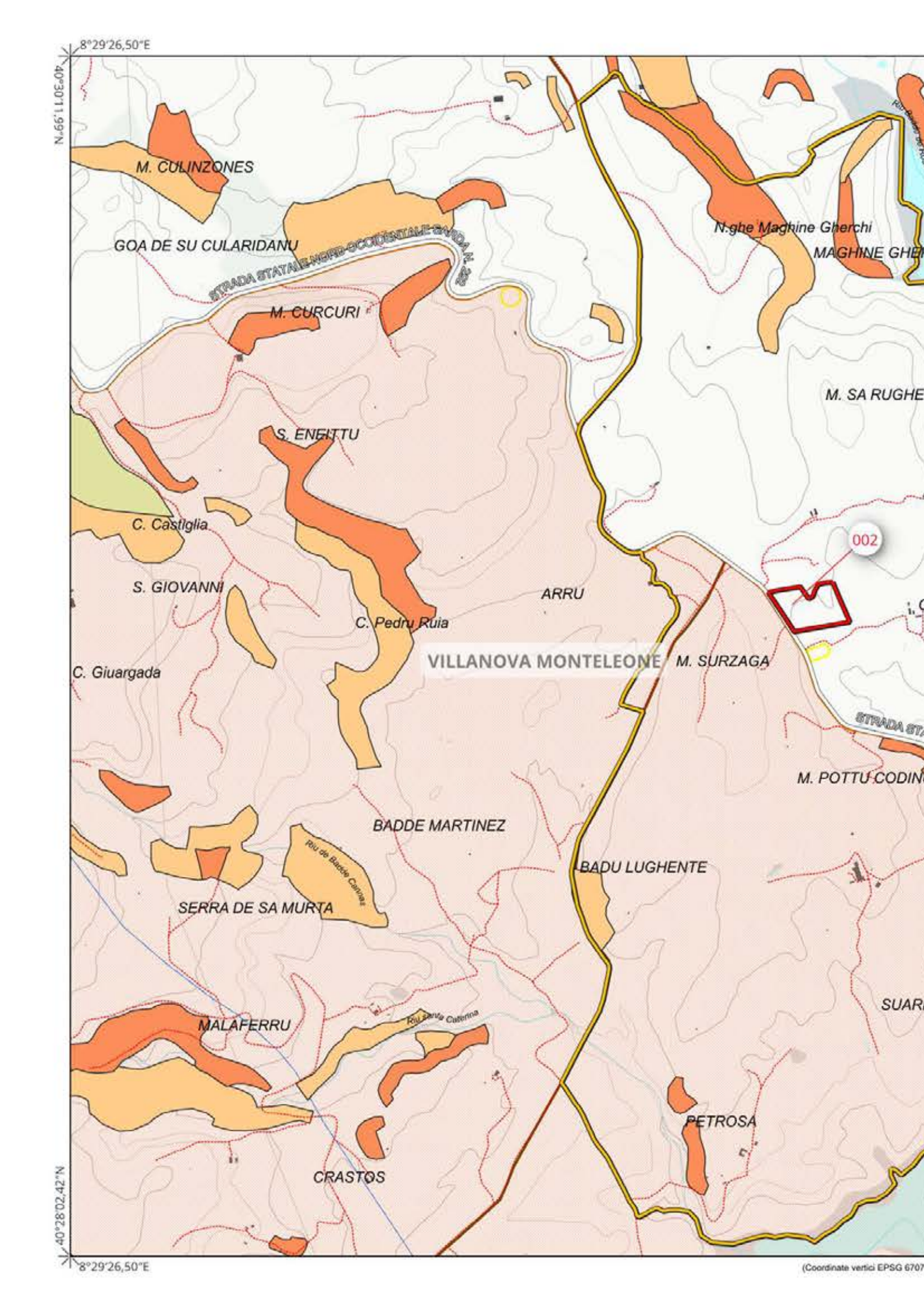
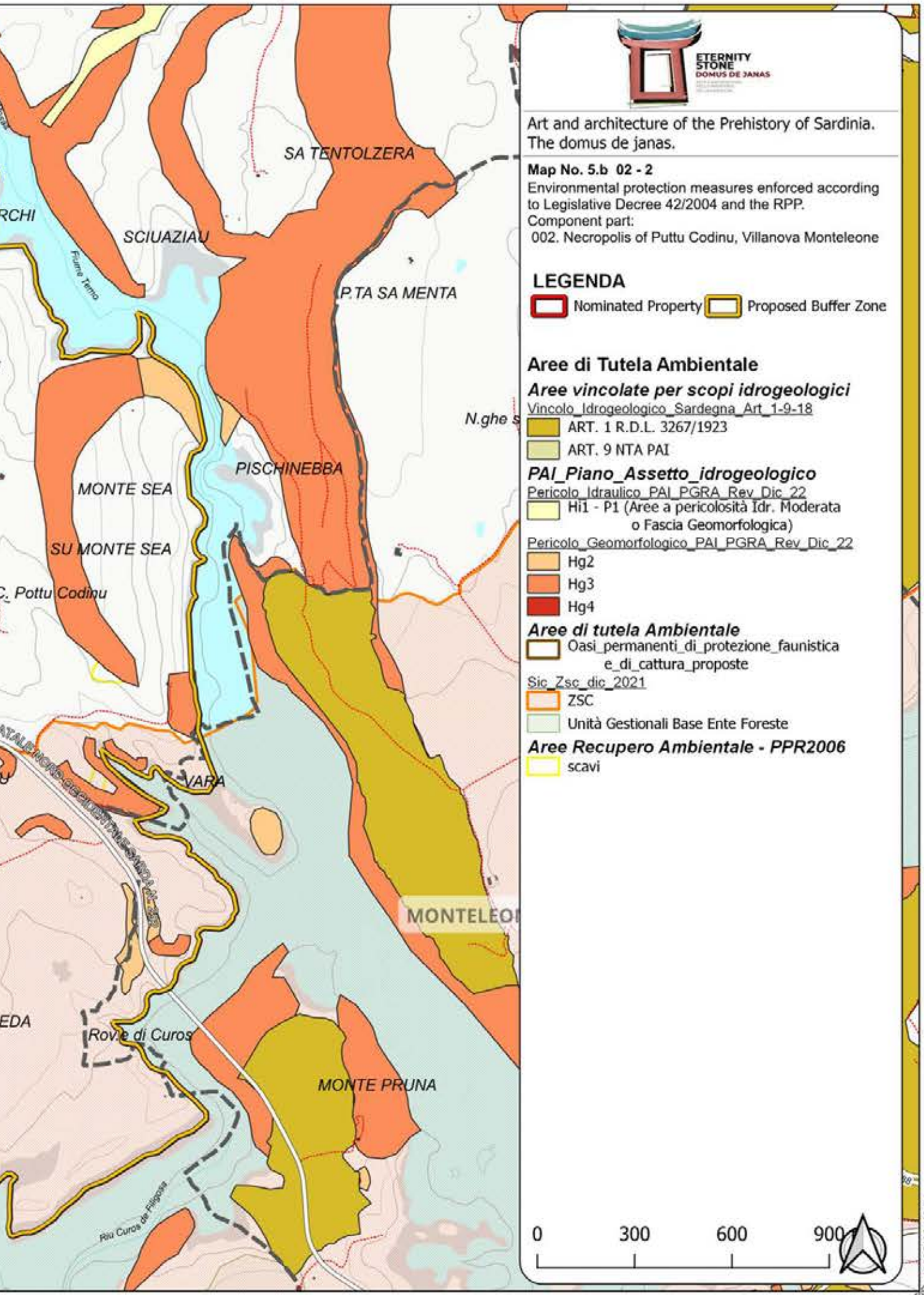

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 5.b 01 - 3
Additional protection measures according to the
Municipal Urban Plans.
Component part:
001. Necropolis of Anghelu Ruju, Alghero
LEGENDA
Nominated Property
Proposed Buffer Zone
Aree di tutela PUC
Full Protection
Conditional Protection
0
300
600
900 m
001
TI
RIO BARCA
STRADA PROVINCIALE DEI DUE MARI N. 42
VIA DEL LAVORO
SA TANCHITTA
PARIS GIEGA
SU MONTIGIU DE SU COSSU
SEGADA
40°36'42.23"N
8°21'22.47"E


8°29'26,50"E
40°30'11,99"N
40°28'02,42"N
8°29'26,50"E
M. CULINZONES
STRADA STATALE NORD OCCIDENTALE SARDA N. 292
N.ghe Maghine Gherchi
MAGHINE GHERC
M. CURCURI
M. SARUGHE
S. ENEITTU
C. Castiglia
S. GIOVANNI
ARRU
002
C. Pottu Codinu
C. Pedru Ruia
C. Giuargada
M. SURZAGA
M. POTTU CODINU
BADDE MARTINEZ
Riu de Badde Cannas
BADU LUGHENTE
VILLANOVA MONTELEONE
SERRA DE SA MURTA
Riu santa Caterina
SUAREDA
PETROSA
CRASTOS

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 5.b 02 - 1
Landscape and cultural protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
002. Necropolis of Puttu Codinu, Villanova Monteleone
LEGENDA
Nominated Property
Direct Constraints
Proposed
Buffer Zone
Aree di tutela Paesaggistico Culturale
art. 142 del D. Lgs. 42/2004 e s.m.i.
territori_contermini_laghi
fiumi_torrenti_corsi_d'acqua_iscritti_in_elenco
fascia_150m_fiumi
art. 143 del D. Lgs. 42/2004 e s.m.i.
grotteCaverne
areeGestSpecialeEnteForeste
laghiInvasiStagni
fiumiTorrenti_Alveo Inciso
Repertorio Beni 2017
BeniPaesaggistici
CHIESA
DOLMEN
DOMUS DE JANAS
MENHIR
NURAGHE
TOMBA DEI GIGANTI
VILLAGGIO
Area tutela Beni Repertoro 2017
Componenti Assetto Ambientale-PPR 2006
1a - Macchia, dune e aree umide
1b - Boschi
2a - Praterie e spiagge
2b - Boschi
3a - Colture arboree specializzate
3b - Impianti boschivi artificiali
3c - Colture erbacee specializzate;
4a - Aree antropizzate
0
300
600
900
SA TENTOLZERA
SCIUAZIAU
P.TA SA MENTA
PISCHINEBBA
MONTE SEA
SU MONTE SEA
VARA
MONTE PRUNA
Rov.e di Curos
Fiume Temo
Riu Curos de Filigosa
40°28'02,42"N
8°33'27,56"E


8°29'26,50"E
40°30'11,99"N
M. CULINZONES
GOA DE SU CULARIDANU
STRADA STATALE NORD-OCCIDENTALE SARDA N. 292
M. CURCURI
N.ghe Maghine Gherchi
MAGHINE GHER
M. SA RUGHE
S. ENGITTU
C. Castiglia
002
S. GIOVANNI
ARRU
C. Pedru Ruia
VILLANOVA MONTELEONE
M. SURZAGA
C. Giuargada
STRADA STA
M. POTTU CODIN
BADDE MARTINEZ
Riu de Baddie Carinas
BADU LUGHENTE
SERRA DE SA MURTA
SUAR
MALAFERRU
Riu Serra Caterina
PETROSA
CRASTOS
40°28'02,42"N
8°29'26,50"E
(Coordinate vertici EPSG 6707



ETERNITY STONE
DOMUS DE JANAS

Art and architecture of the Prehistory of Sardinia.
The domus de janas.

Map No. 5.b 02 - 2

Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
002. Necropolis of Puttu Codinu, Villanova Monteleone

LEGENDA

Nominated Property
Proposed Buffer Zone

Aree di Tutela Ambientale

Aree vincolate per scopi idrogeologici

Vincolo_Idrogeologico_Sardegna_Art_1-9-18
- ART. 1 R.D.L. 3267/1923
- ART. 9 NTA PAI

PAI_Piano_Assetto_idrogeologico

Pericolo_Idraulico_PAI_PGRA_Rev_Dic_22
- Hi1 - P1 (Aree a pericolosità Idr. Moderata o Fascia Geomorfologica)

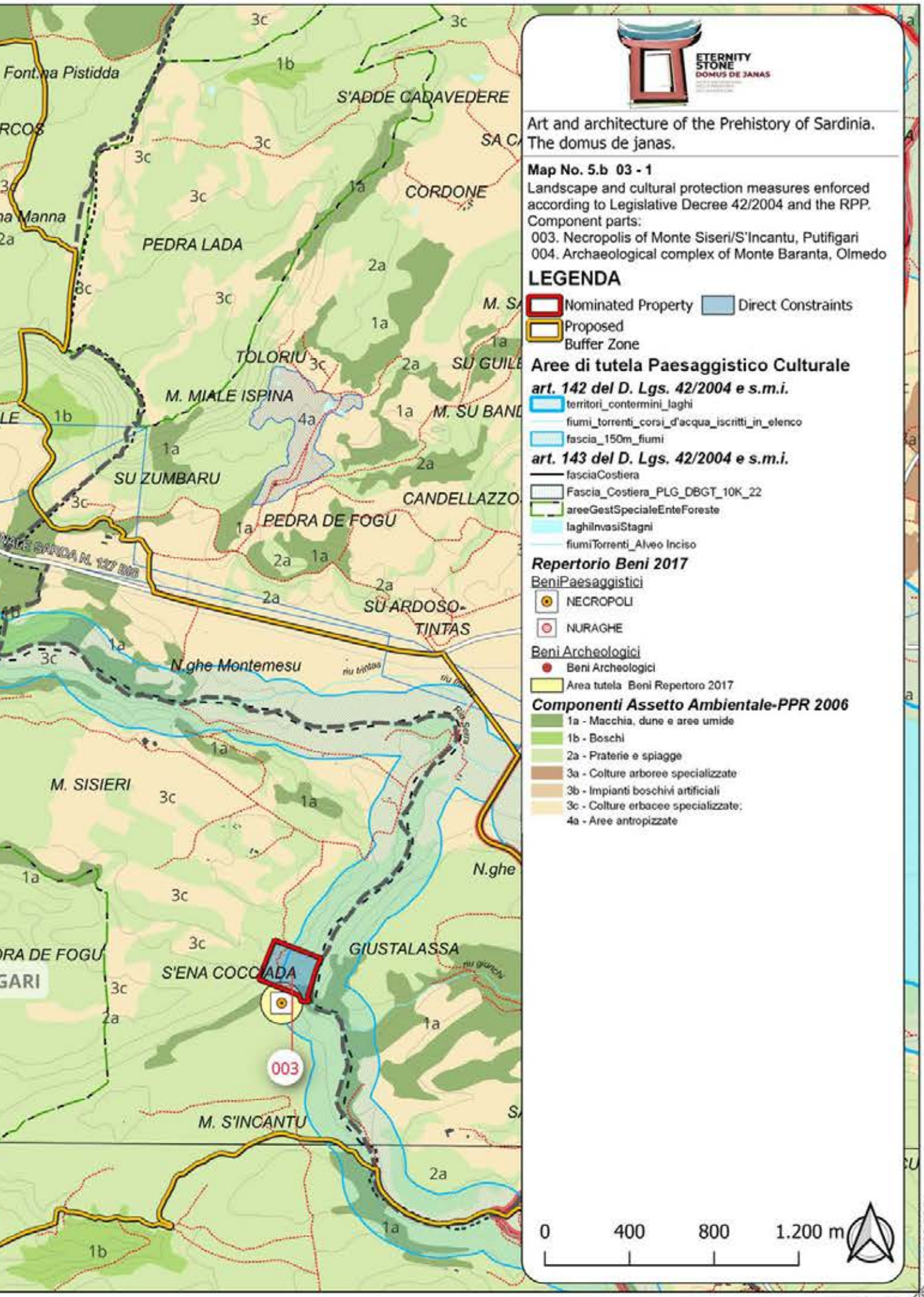
Pericolo_Geomorfologico_PAI_PGRA_Rev_Dic_22
- Hg2
- Hg3
- Hg4

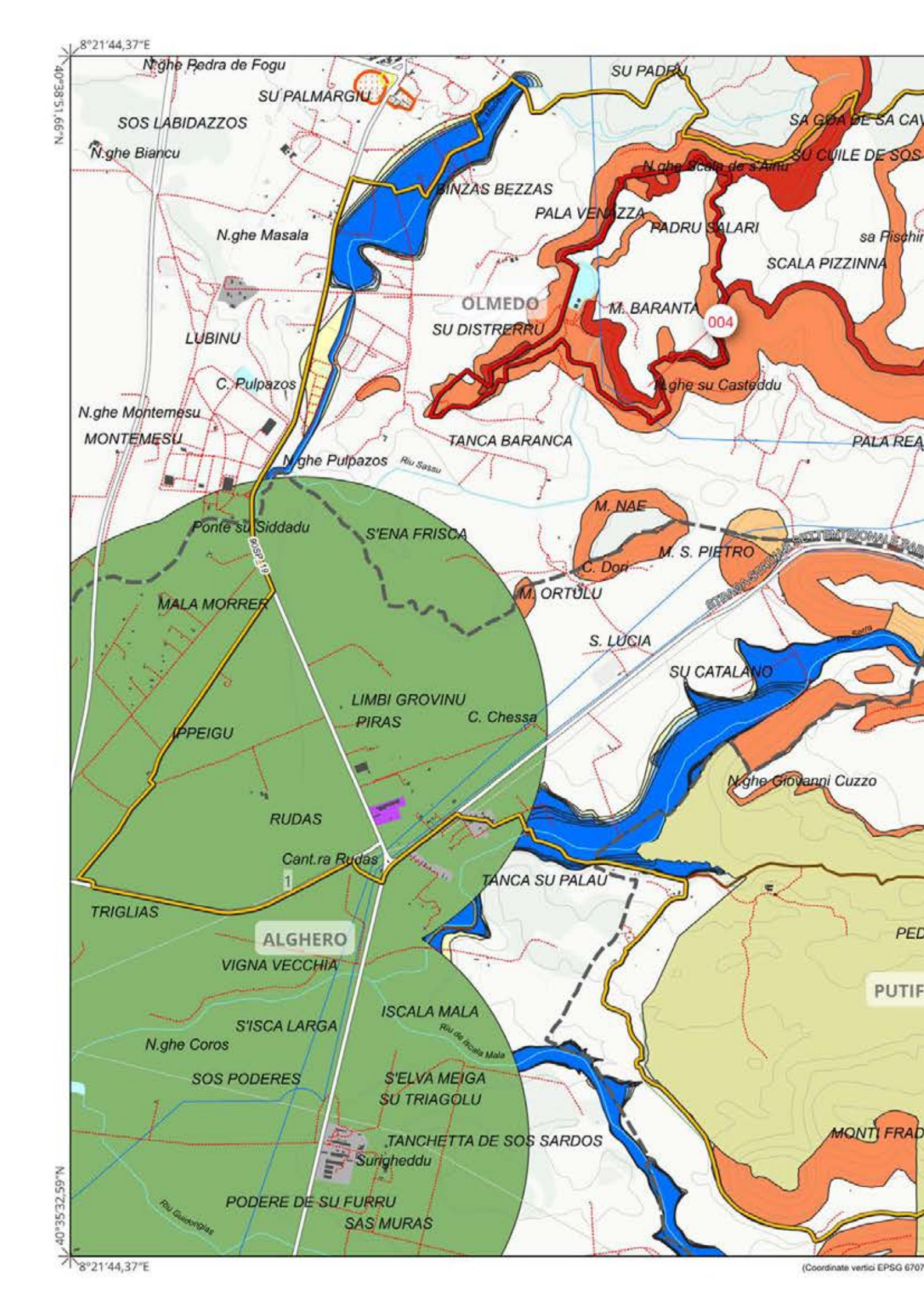
Aree di tutela Ambientale
- Oasi_permanenti_di_protezione_faunistica e_di_cattura_proposte

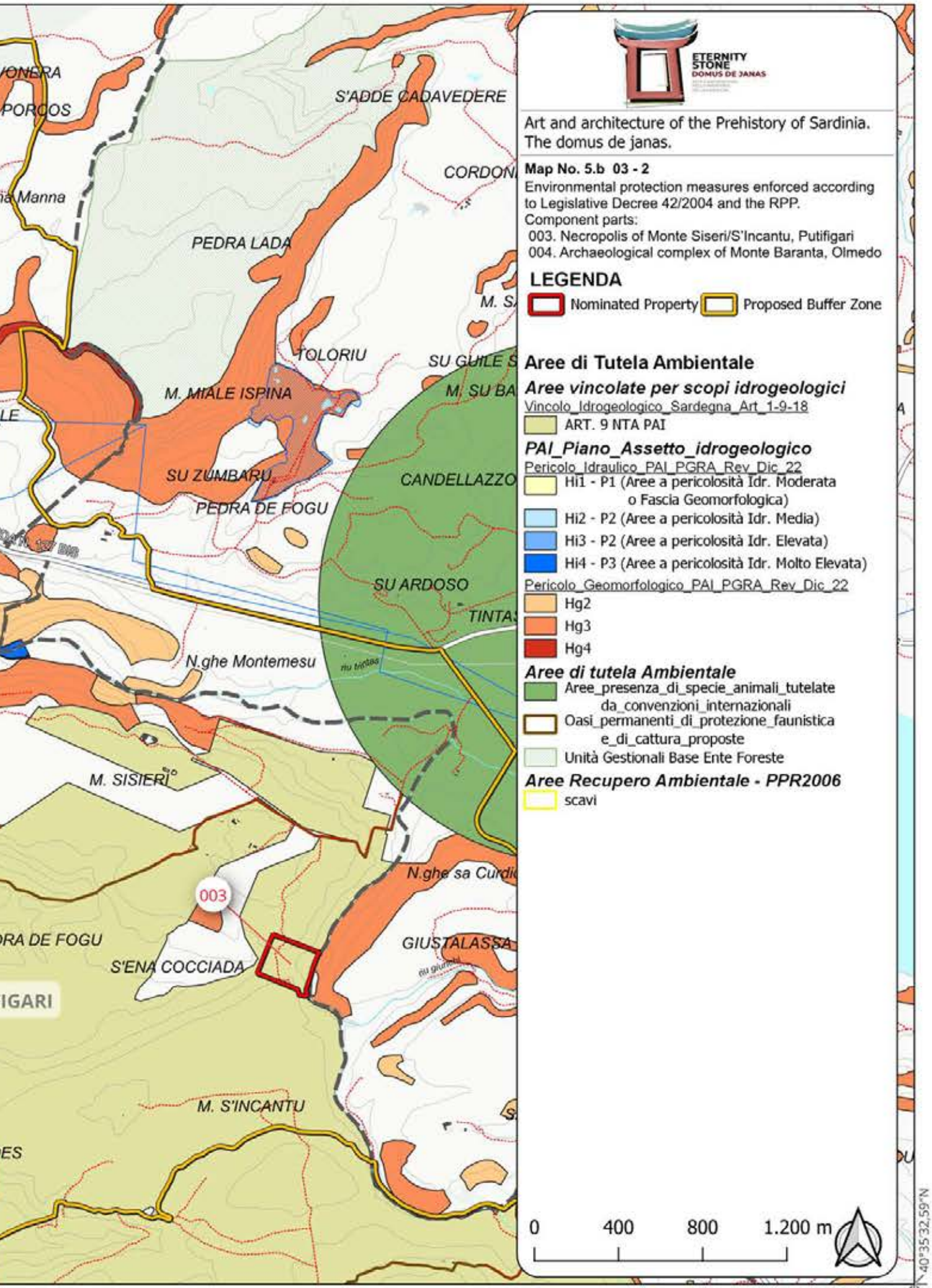
Sic_Zsc_dic_2021
- ZSC
- Unità Gestionali Base Ente Foreste

Aree Recupero Ambientale - PPR2006
- scavi

8°21'44,37"E
40°38'51,66"N
N.ghe Pedra de Fogu
SU PALMARGIU
SOS LABIDAZZOS
N.ghe Biancu
BINZAS BEZZAS
PALA VENAZZA
N.ghe Scala de s'Anu
SU CUILE DE SOS PO
PADRU SALARI
sa Pischin
SCALA PIZZINNA
N.ghe Masala
OLMEDO
M. BARANTA
LUBINU
SU DISTRERRU
C. Pulpazos
N.ghe Montemesu
MONTEMESU
N.ghe Pulpazos
N.ghe su Casteddu
TANCA BARANCA
PALA REA
004
Ponte su Siddadu
Riu Sassu
M. NAE
S'ENA FRISCA
C. Dori
M. S. PIETRO
M. ORTULU
MALA MORRER
S. LUCIA
SU CATALANO
PIRAS
LIMBI GROVINU
C. Chessa
IPPEIGU
ALGHERO
N.ghe Giovanni Cuzzo
RUDAS
Cant.ra Rudas
TANCA SU PALAU
TRIGLIAS
VIGNA VECCHIA
ISCALA MALA
S'ISCA LARGA
N.ghe Coros
SOS PODERES
S'ELVA MEIGA
TANCHETTA DE SOS SARDOS
MONTI FRADES
Surigheddu
PODERE DE SU FURRU
SAS MURAS
Riu Guidongias
40°35'32,59"N
8°21'44,37"E


ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 5.b 03 - 1
Landscape and cultural protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component parts:
003. Necropolis of Monte Siseri/S'Incantu, Putifigari
004. Archaeological complex of Monte Baranta, Olmedo
LEGENDA
Nominated Property
Direct Constraints
Proposed Buffer Zone
Aree di tutela Paesaggistico Culturale
art. 142 del D. Lgs. 42/2004 e s.m.i.
territori_contermini_laghi
fiumi_torrenti_corsi_d'acqua_iscritti_in_elenco
fascia_150m_fiumi
art. 143 del D. Lgs. 42/2004 e s.m.i.
fasciaCostiera
Fascia_Costiera_PLG_DBGT_10K_22
areeGestSpecialeEnteForeste
laghiInvasiStagni
fiumiTorrenti_Alveo Inciso
Repertorio Beni 2017
BeniPaesaggistici
NECROPOLI
NURAGHE
Beni Archeologici
Beni Archeologici
Area tutela Beni Repertoro 2017
Componenti Assetto Ambientale-PPR 2006
1a - Macchia, dune e aree umide
1b - Boschi
2a - Praterie e spiagge
3a - Colture arboree specializzate
3b - Impianti boschivi artificiali
3c - Colture erbacee specializzate;
4a - Aree antropizzate
0
400
800
1.200 m
003
S'ADDE CADAVEDERE
CORDONE
PEDRA LADA
TOLORIU
M. MIALE ISPINA
SU ZUMBARU
PEDRA DE FOGU
CANDELLAZZO
SU ARDOSO-TINTAS
N.ghe Montemesu
M. SISIERI
GIUSTALASSA
S'ENA COCCIADA
M. S'INCANTU
Font.na Pistidda
SU GUILE
M. SU BAND
N.ghe
40°35'32,59"N
8°27'55,14"E


8°21'44,37"E
40°38'51,66"N
N.ghe Pedra de Fogu
SU PALMARGIU
SOS LABIDAZZOS
N.ghe Biancu
SU PADRU
SA GOA DE SA CA
SU CUILE DE SOS
N.ghe Scala de s'Anu
BINZAS BEZZAS
PALA VENAZZA
PADRU SALARI
sa Pischir
N.ghe Masala
SCALA PIZZINNA
OLMEDO
M. BARANTA
004
SU DISTRERRU
LUBINU
C. Pulpazos
N.ghe su Casteddu
N.ghe Montemesu
MONTEMESU
TANCA BARANCA
PALA REA
N.ghe Pulpazos
Riu Sassu
M. NAE
Ponte su Siddadu
S'ENA FRISCA
M. S. PIETRO
C. Dori
M. ORTULU
SP19
MALA MORRER
S. LUCIA
SU CATALANO
LIMBI GROVINU
PIRAS
C. Chessa
IPPEIGU
N.ghe Giovanni Cuzzo
RUDAS
Cant.ra Rudas
TANCA SU PALAU
TRIGLIAS
ALGHERO
VIGNA VECCHIA
ISCALA MALA
S'ISCA LARGA
Riu de Iscala Mala
N.ghe Coros
SOS PODERES
S'ELVA MEIGA
SU TRIAGOLU
TANCHETTA DE SOS SARDOS
Surigheddu
PODERE DE SU FURRU
SAS MURAS
Riu Guardiglas
40°35'32,59"N
8°21'44,37"E
(Coordinate vertici EPSG 6707



ETERNITY STONE
DOMUS DE JANAS

Art and architecture of the Prehistory of Sardinia.
The domus de janas.

Map No. 5.b 03 - 2

Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component parts:
003. Necropolis of Monte Siseri/S'Incantu, Putifigari
004. Archaeological complex of Monte Baranta, Olmedo

LEGENDA

Nominated Property
Proposed Buffer Zone

Aree di Tutela Ambientale

Aree vincolate per scopi idrogeologici

Vincolo_Idrogeologico_Sardegna_Art_1-9-18
- ART. 9 NTA PAI

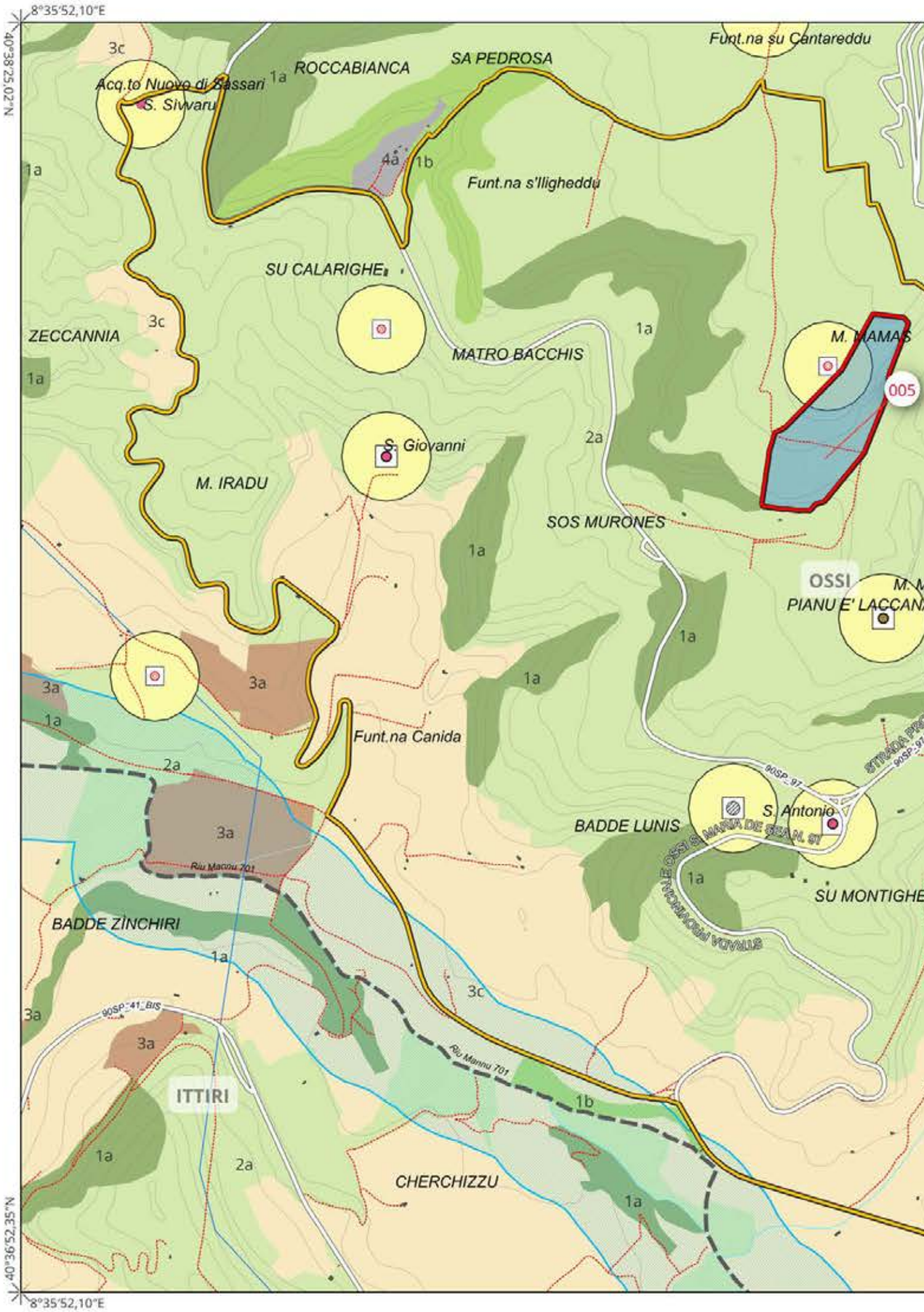
PAI_Piano_Assetto_idrogeologico

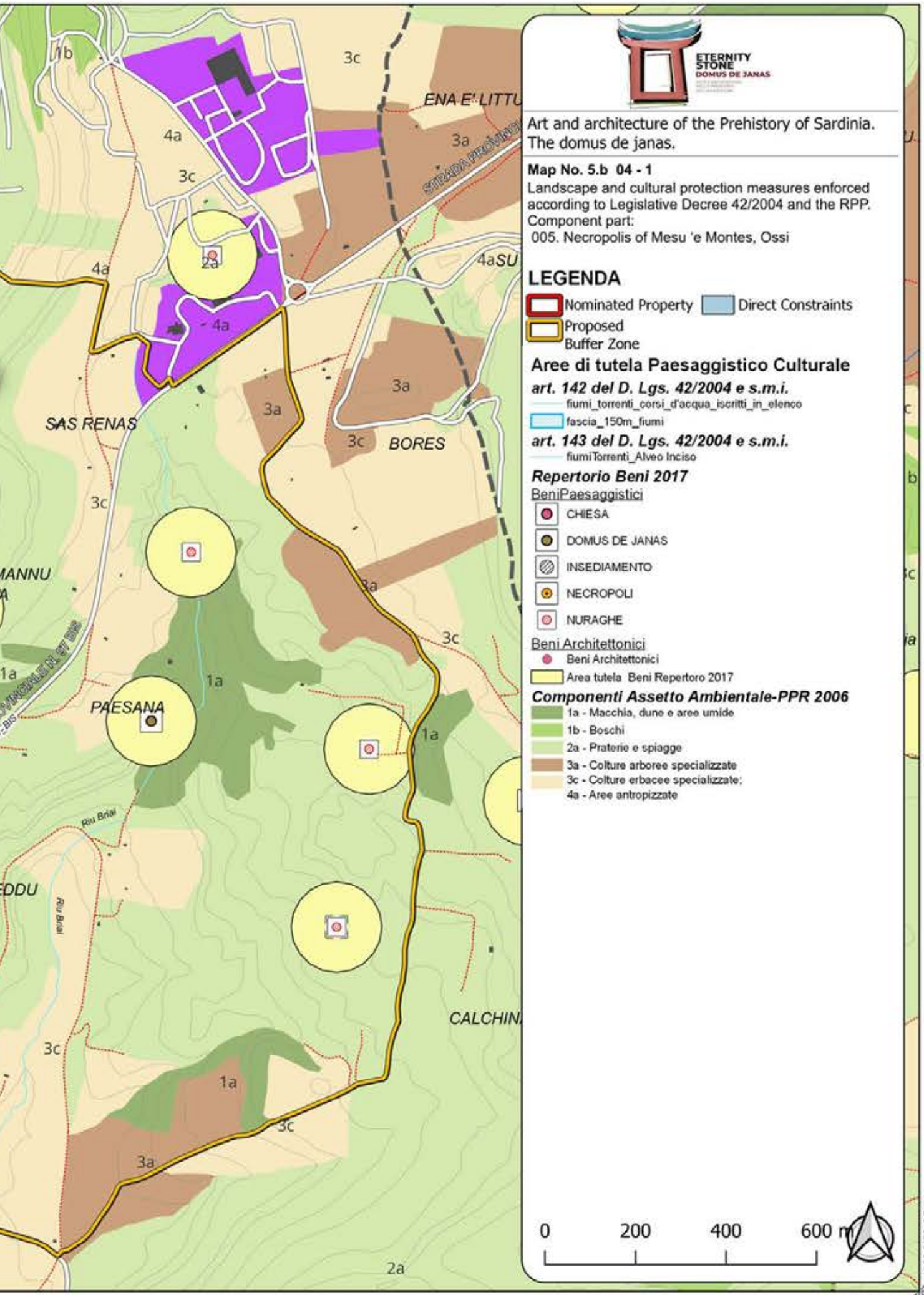
Pericolo_Idraulico_PAI_PGRA_Rev_Dic_22
- Hi1 - P1 (Aree a pericolosità Idr. Moderata o Fascia Geomorfologica)
- Hi2 - P2 (Aree a pericolosità Idr. Media)
- Hi3 - P2 (Aree a pericolosità Idr. Elevata)
- Hi4 - P3 (Aree a pericolosità Idr. Molto Elevata)

Pericolo_Geomorfologico_PAI_PGRA_Rev_Dic_22
- Hg2
- Hg3
- Hg4

Aree di tutela Ambientale
- Aree_presenza_di_specie_animali_tutelate da_convenzioni_internazionali
- Oasi_permanenti_di_protezione_faunistica e_di_cattura_proposte
- Unità Gestionali Base Ente Foreste

Aree Recupero Ambientale - PPR2006
- scavi


8°35'52,10"E
40°38'25,02"N
Funt.na su Cantareddu
3c
ROCCABIANCA
SA PEDROSA
1a
Acq.to Nuovo di Sassari
S. Sivvaru
4a
1b
Funt.na s'Illigheddu
SU CALARIGHE
ZECCANNIA
3c
1a
MATRO BACCHIS
M. MAMAS
005
S. Giovanni
2a
M. IRADU
SOS MURONES
OSSI
PIANU E' LACCAN
3a
Funt.na Canida
90SP_97
S. Antonio
BADDE LUNIS
SU MONTIGHE
Riu Mannu 701
BADDE ZINCHIRI
90SP_41_BIS
ITTIRI
CHERCHIZZU
1b
2a
40°36'52,35"N
8°35'52,10"E



ETERNITY STONE
DOMUS DE JANAS

Art and architecture of the Prehistory of Sardinia.
The domus de janas.

Map No. 5.b 04 - 1

Landscape and cultural protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
005. Necropolis of Mesu 'e Montes, Ossi

LEGENDA

Nominated Property
Direct Constraints
Proposed Buffer Zone

Aree di tutela Paesaggistico Culturale

art. 142 del D. Lgs. 42/2004 e s.m.i.

fiumi_torrenti_corsi_d'acqua_iscritti_in_elenco
fascia_150m_fiumi

art. 143 del D. Lgs. 42/2004 e s.m.i.

fiumiTorrenti_Alveo Inciso

Repertorio Beni 2017

BeniPaesaggistici

- CHIESA
- DOMUS DE JANAS
- INSEDIAMENTO
- NECROPOLI
- NURAGHE

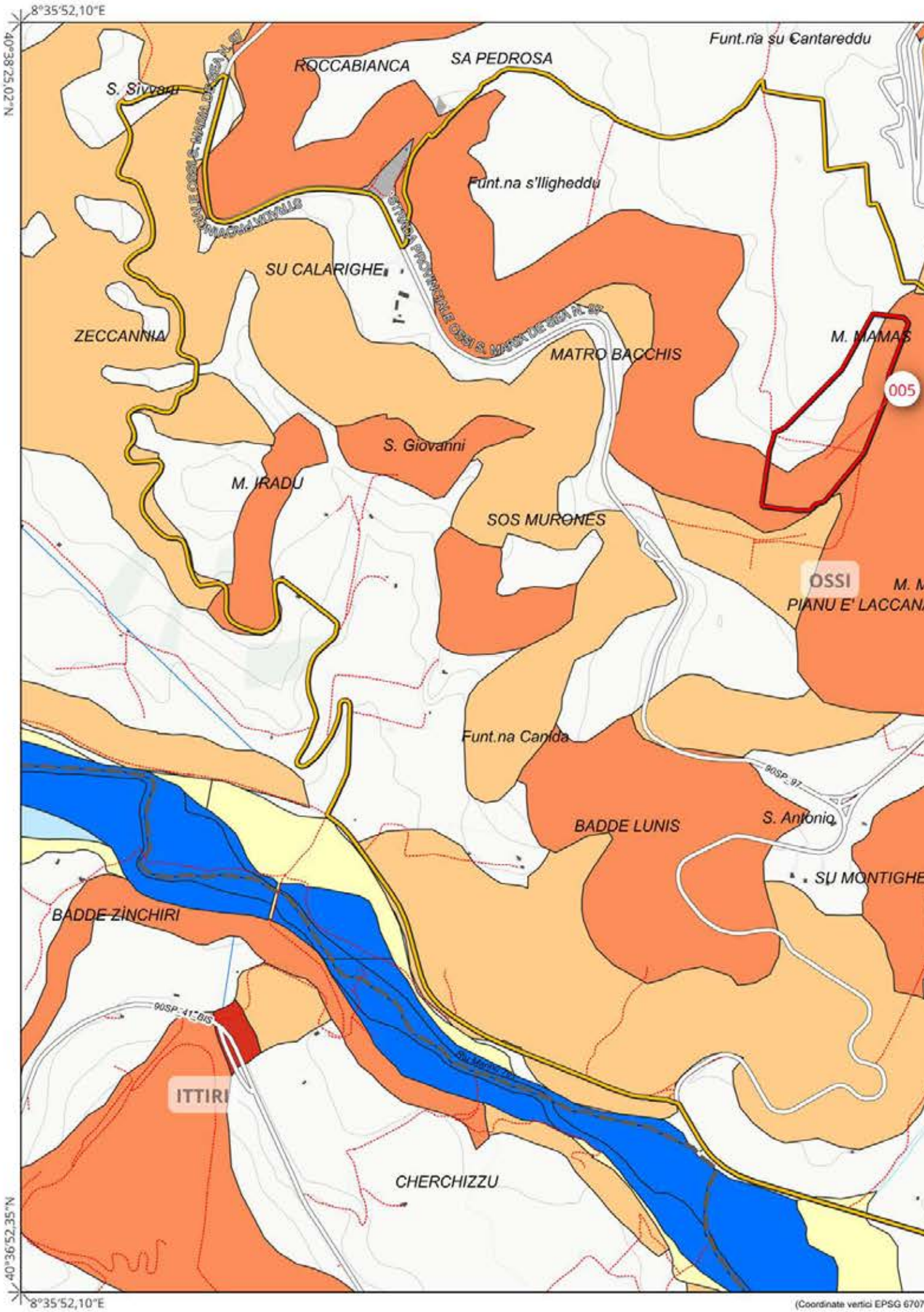
Beni Architettonici

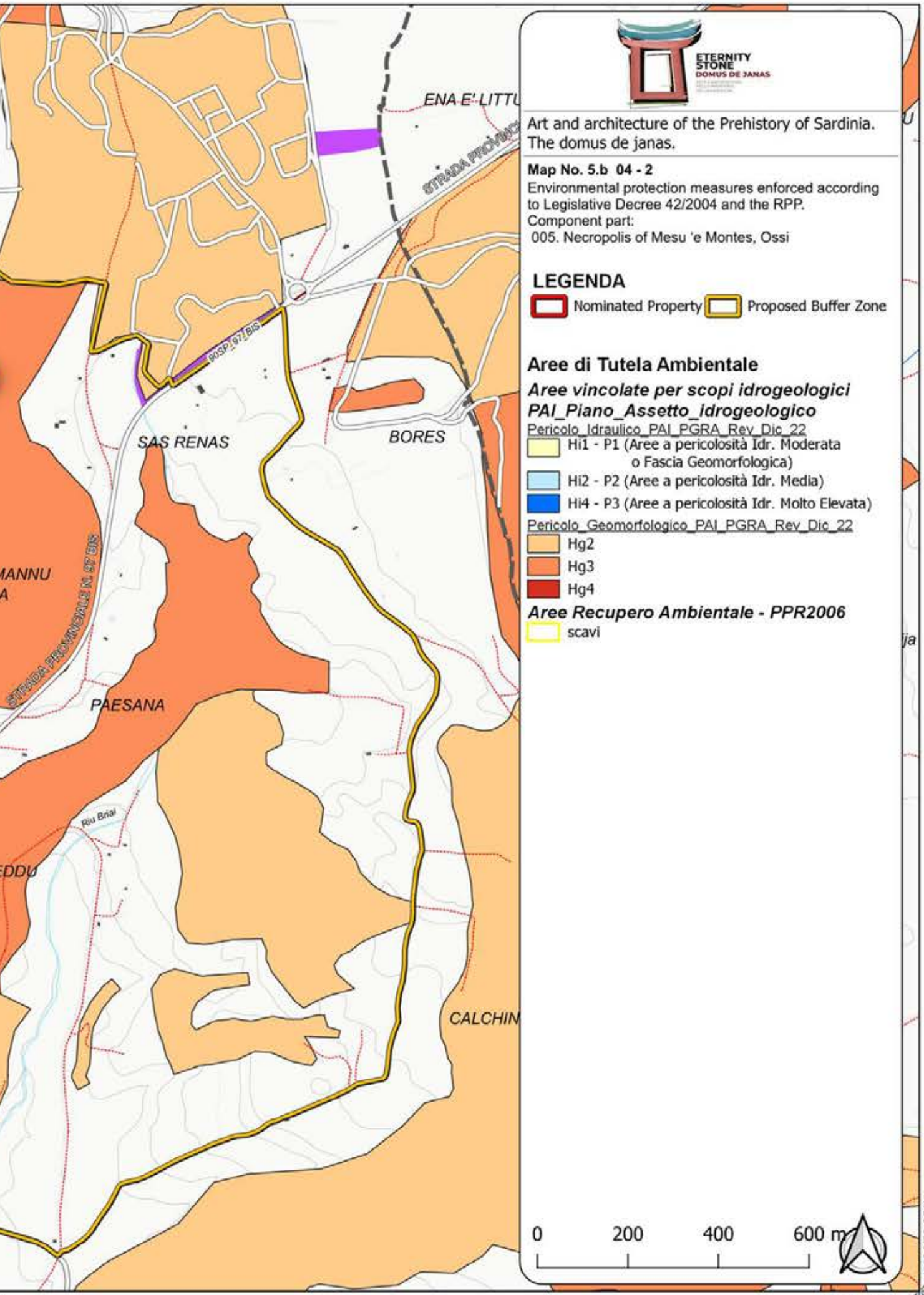
- Beni Architettonici
- Area tutela Beni Repertoro 2017

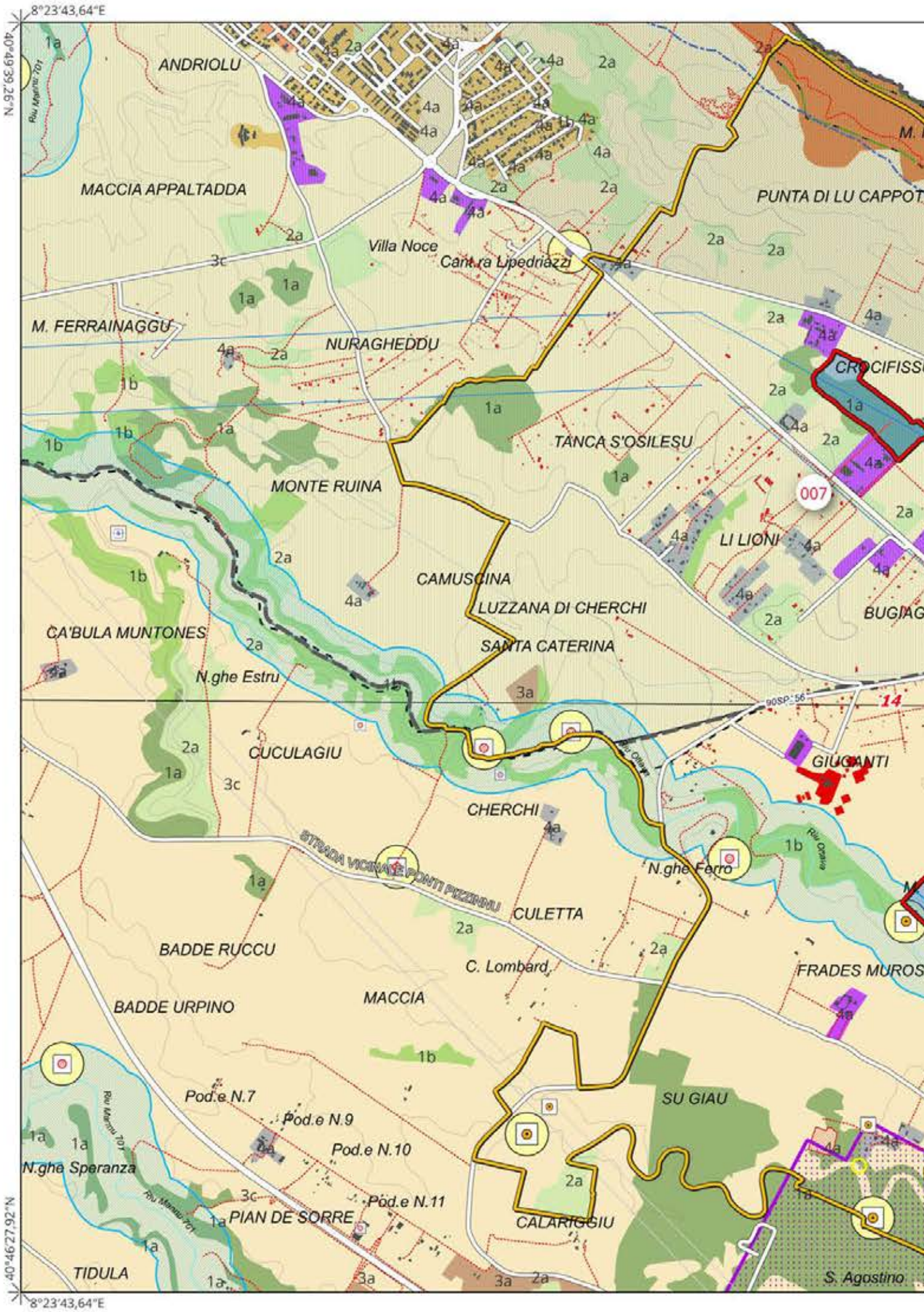
Componenti Assetto Ambientale-PPR 2006

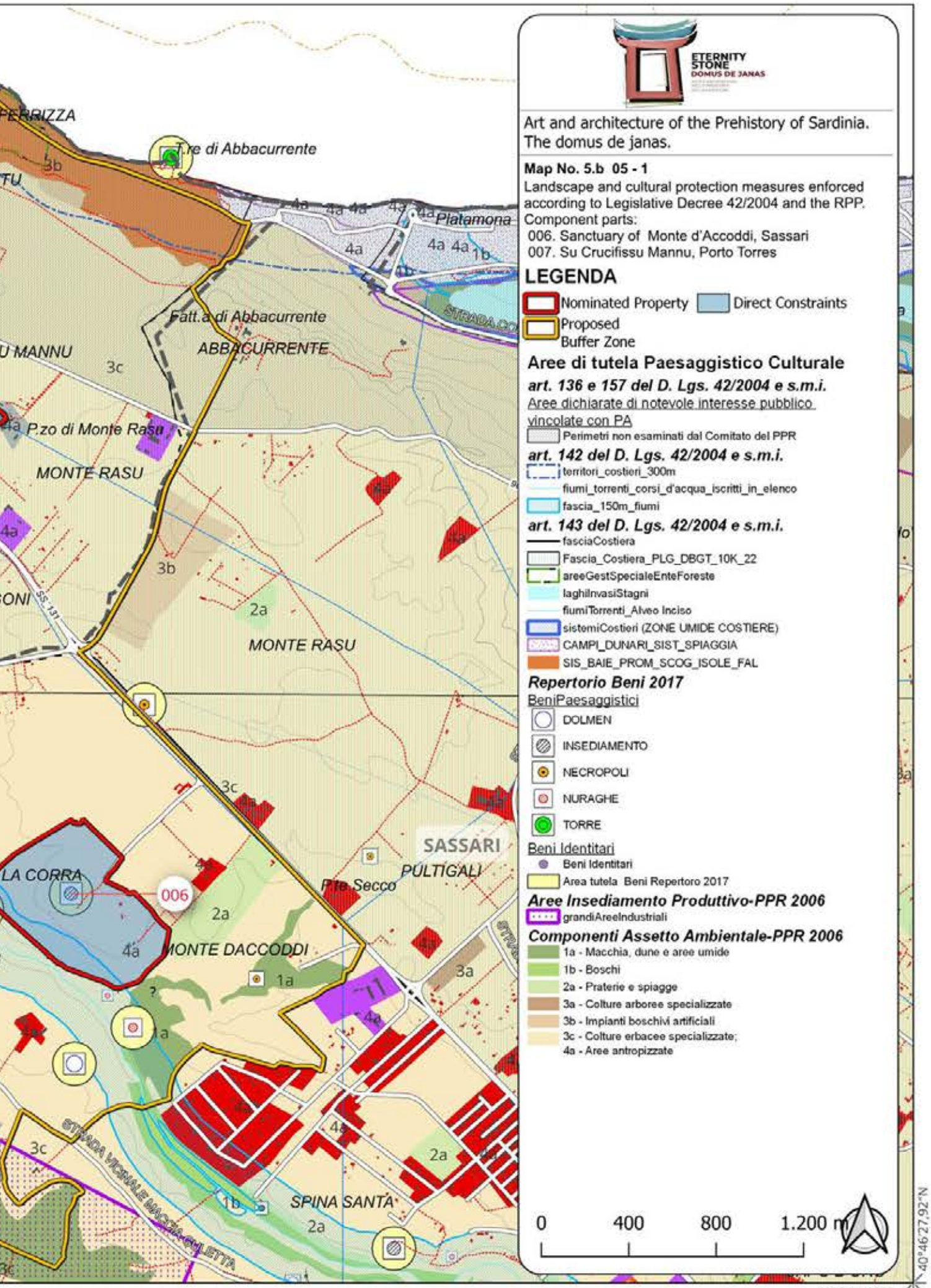
- 1a - Macchia, dune e aree umide
- 1b - Boschi
- 2a - Praterie e spiagge
- 3a - Colture arboree specializzate
- 3c - Colture erbacee specializzate;
- 4a - Aree antropizzate

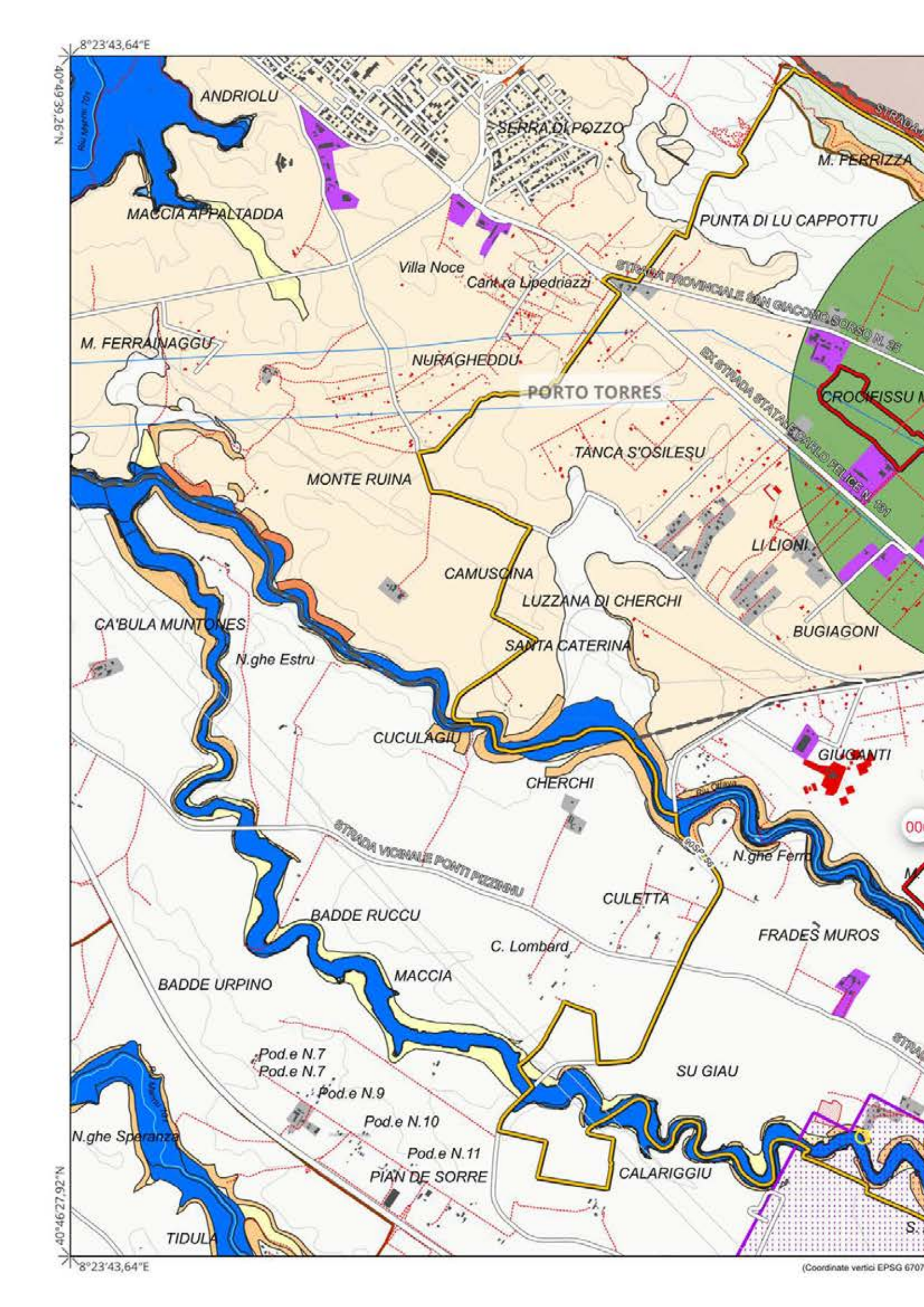
40°36'52,35"N
8°38'45,01"E

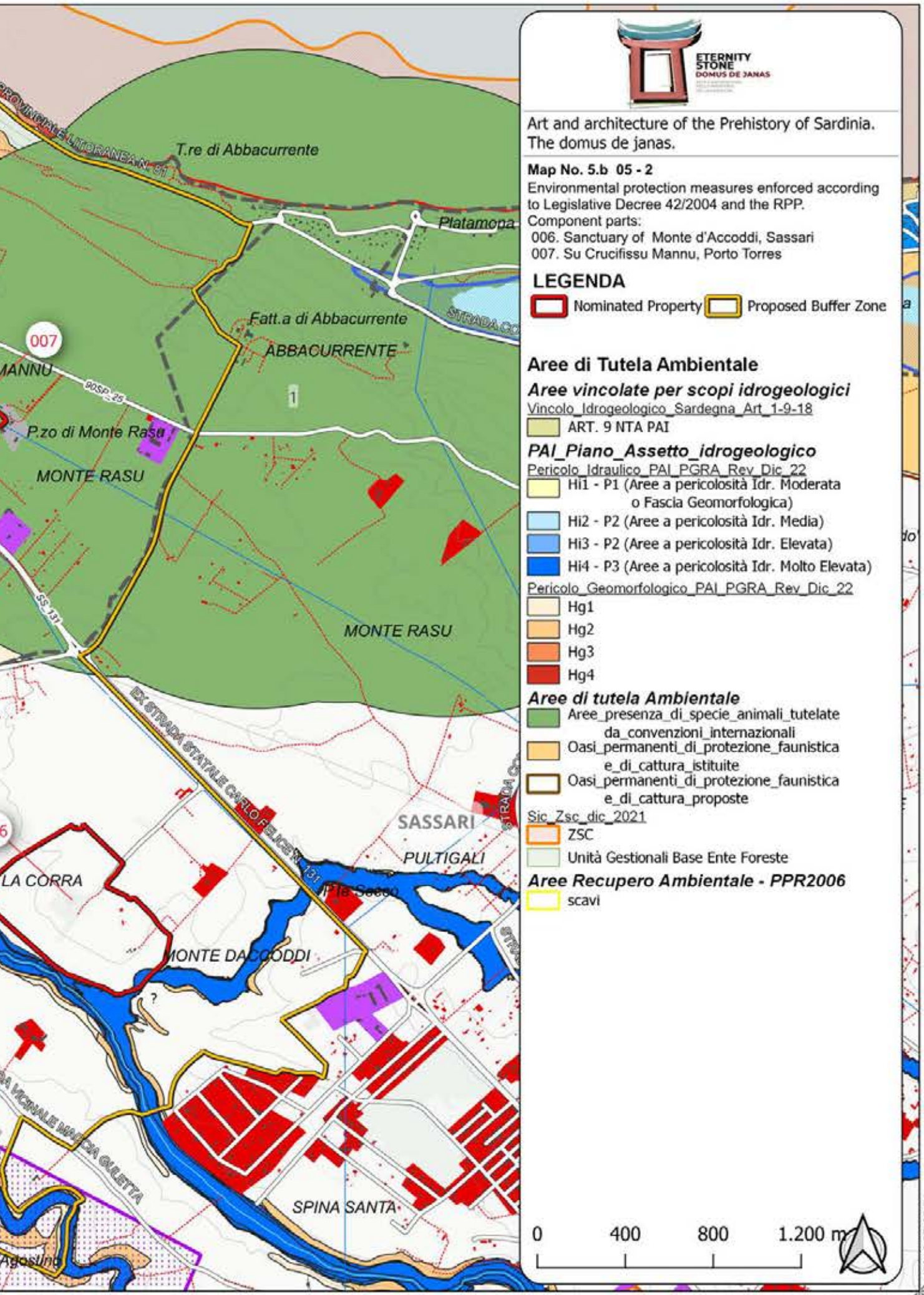

8°35'52,10"E
40°38'25,02"N
40°36'52,35"N
8°35'52,10"E
Funt.na su Cantareddu
ROCCABIANCA
SA PEDROSA
S. Sivvaru
Funt.na s'Illigheddu
SU CALARIGHE
ZECCANNIA
MATRO BACCHIS
M. MAMAS
005
S. Giovanni
M. IRADU
SOS MURONES
OSSI
PIANU E' LACCANA
Funt.na Canda
BADDE LUNIS
S. Antoniu
SU MONTIGHE
BADDE ZINCHIRI
ITTIRI
CHERCHIZZU
(Coordinate vertici EPSG 6707

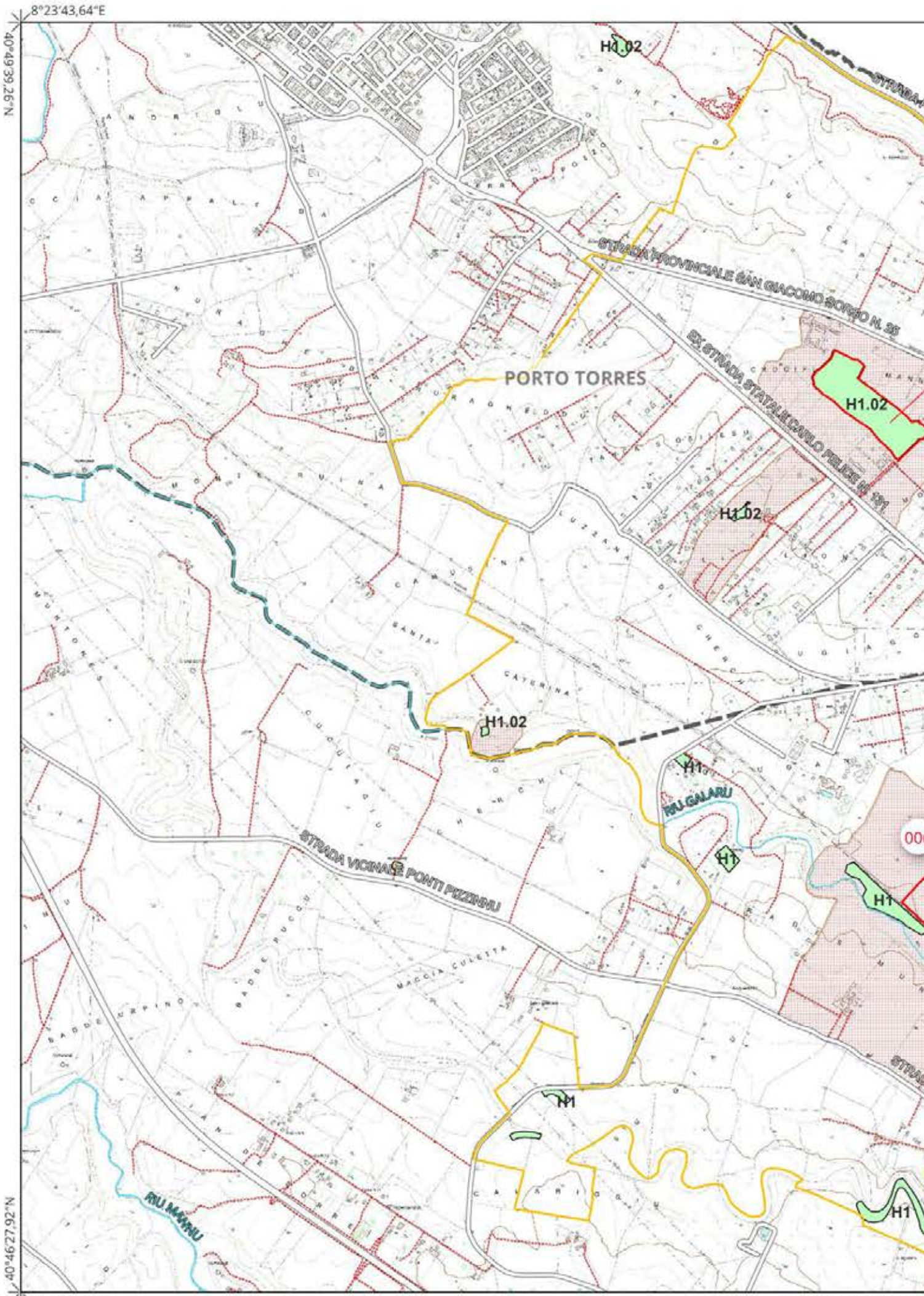

ENA E' LITTU
STRADA PROVINCIALE
90SP_97_BIS
SAS RENAS
BORES
MANNU
A
STRADA PROVINCIALE N. 97 BIS
PAESANA
Riu Bnai
EDDU
CALCHIN
ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 5.b 04 - 2
Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
005. Necropolis of Mesu 'e Montes, Ossi
LEGENDA
Nominated Property
Proposed Buffer Zone
Aree di Tutela Ambientale
Aree vincolate per scopi idrogeologici
PAI_Piano_Assetto_idrogeologico
Pericolo_Idraulico_PAI_PGRA_Rev_Dic_22
Hi1 - P1 (Aree a pericolosità Idr. Moderata o Fascia Geomorfologica)
Hi2 - P2 (Aree a pericolosità Idr. Media)
Hi4 - P3 (Aree a pericolosità Idr. Molto Elevata)
Pericolo_Geomorfologico_PAI_PGRA_Rev_Dic_22
Hg2
Hg3
Hg4
Aree Recupero Ambientale - PPR2006
scavi
0
200
400
600 m
40°36'52,35"N
8°38'45,01"E

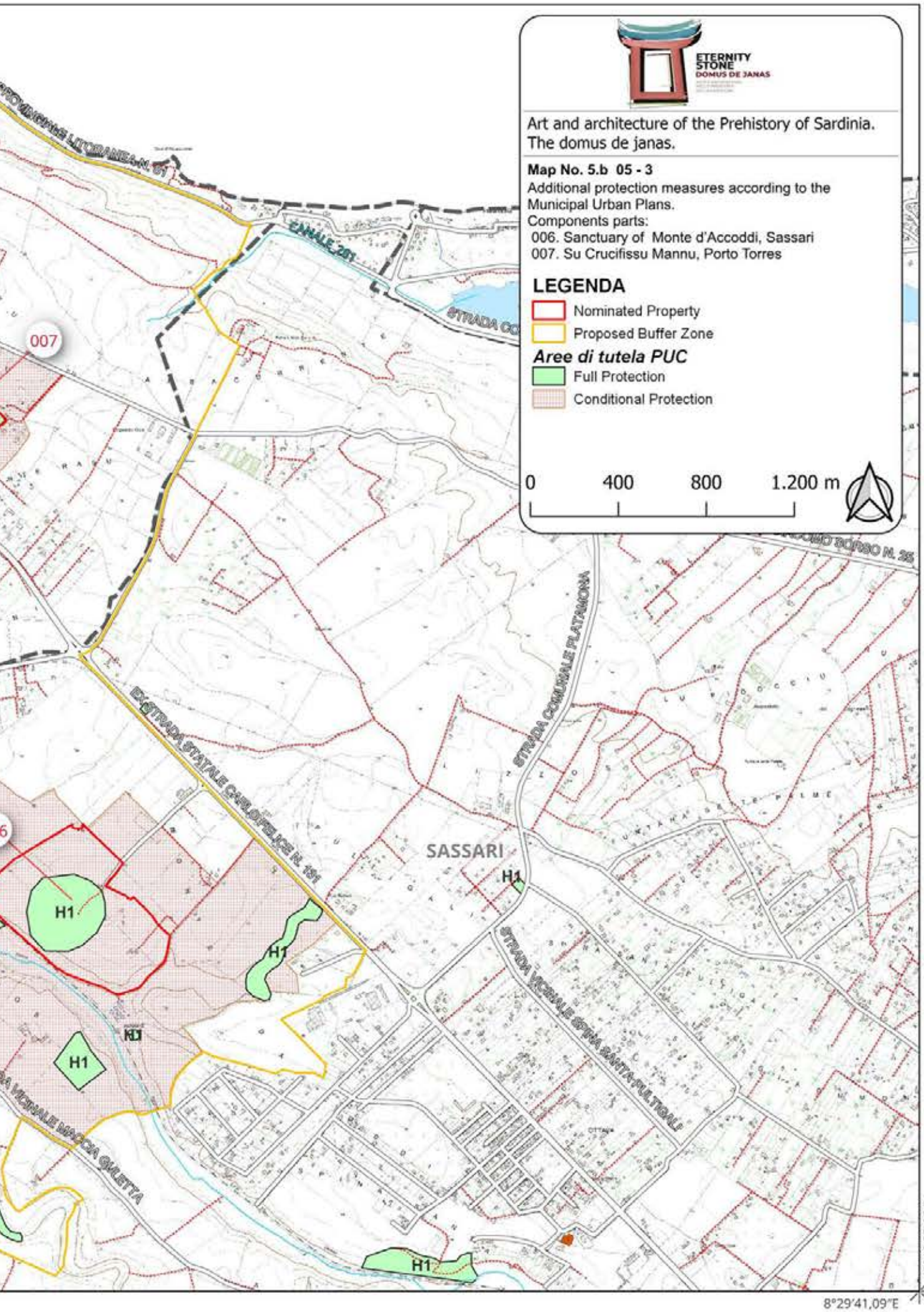

8°23'43,64"E
40°49'39,26"N
ANDRIOLU
MACCIA APPALTADDA
Villa Noce
Cant.ra Lipedriazzi
PUNTA DI LU CAPPOT
M. FERRAINAGGU
NURAGHEDDU
TANCA S'OSILESU
MONTE RUINA
LI LIONI
007
CAMUSCINA
LUZZANA DI CHERCHI
SANTA CATERINA
CA'BULA MUNTONES
N.ghe Estru
CUCULAGIU
CHERCHI
N.ghe Ferro
CULETTA
BADDE RUCCU
C. Lombard
MACCIA
BADDE URPINO
FRADES MUROS
SU GIAU
Pod.e N.7
Pod.e N.9
Pod.e N.10
Pod.e N.11
N.ghe Speranza
PIAN DE SORRE
CALARIGGIU
TIDULA
S. Agostino
90SP 56
14
40°46'27,92"N
8°23'43,64"E

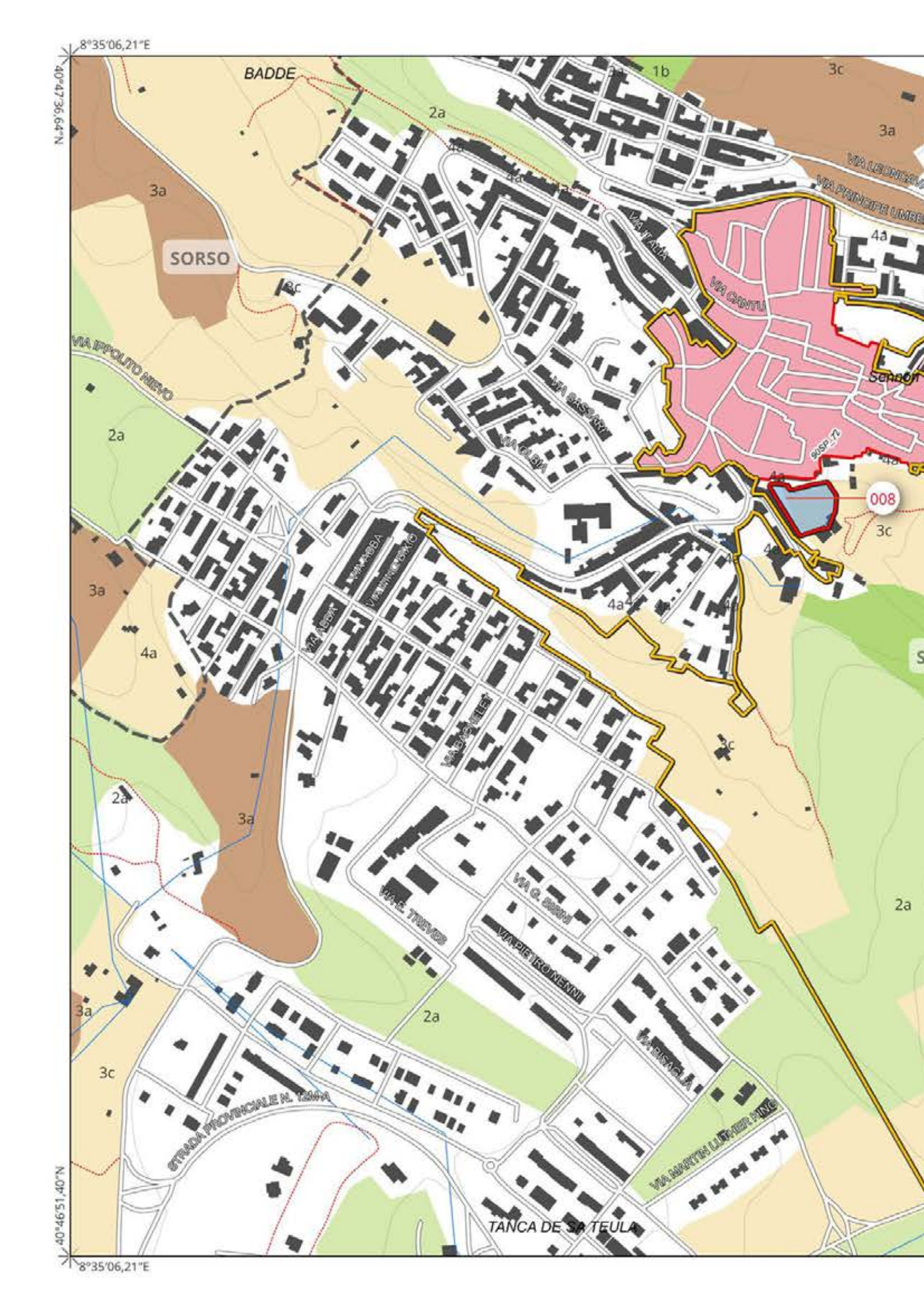

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 5.b 05 - 1
Landscape and cultural protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component parts:
006. Sanctuary of Monte d'Accoddi, Sassari
007. Su Crucifissu Mannu, Porto Torres
LEGENDA
Nominated Property
Direct Constraints
Proposed Buffer Zone
Aree di tutela Paesaggistico Culturale
art. 136 e 157 del D. Lgs. 42/2004 e s.m.i.
Aree dichiarate di notevole interesse pubblico vincolate con PA
Perimetri non esaminati dal Comitato del PPR
art. 142 del D. Lgs. 42/2004 e s.m.i.
territori_costieri_300m
fiumi_torrenti_corsi_d'acqua_iscritti_in_elenco
fascia_150m_fiumi
art. 143 del D. Lgs. 42/2004 e s.m.i.
fasciaCostiera
Fascia_Costiera_PLG_DBGT_10K_22
areeGestSpecialeEnteForeste
laghiInvasiStagni
fiumiTorrenti_Alveo Inciso
sistemiCostieri (ZONE UMIDE COSTIERE)
CAMPI_DUNARI_SIST_SPIAGGIA
SIS_BAIE_PROM_SCOG_ISOLE_FAL
Repertorio Beni 2017
BeniPaesaggistici
DOLMEN
INSEDIAMENTO
NECROPOLI
NURAGHE
TORRE
Beni Identitari
Beni Identitari
Area tutela Beni Repertoro 2017
Aree Insediamento Produttivo-PPR 2006
grandiAreeIndustriali
Componenti Assetto Ambientale-PPR 2006
1a - Macchia, dune e aree umide
1b - Boschi
2a - Praterie e spiagge
3a - Colture arboree specializzate
3b - Impianti boschivi artificiali
3c - Colture erbacee specializzate;
4a - Aree antropizzate
0
400
800
1.200 m
Tre di Abbacurrente
Platamona
Fatt.a di Abbacurrente
ABBACURRENTE
P.zo di Monte Rasu
MONTE RASU
MONTE RASU
SASSARI
PULTIGALI
P.te Secco
LA CORRA
006
MONTE DACCODDI
SPINA SANTA
STRADA VICINALE MACCIA-ELETTA
40°46'27.92"N
8°29'41.09"E

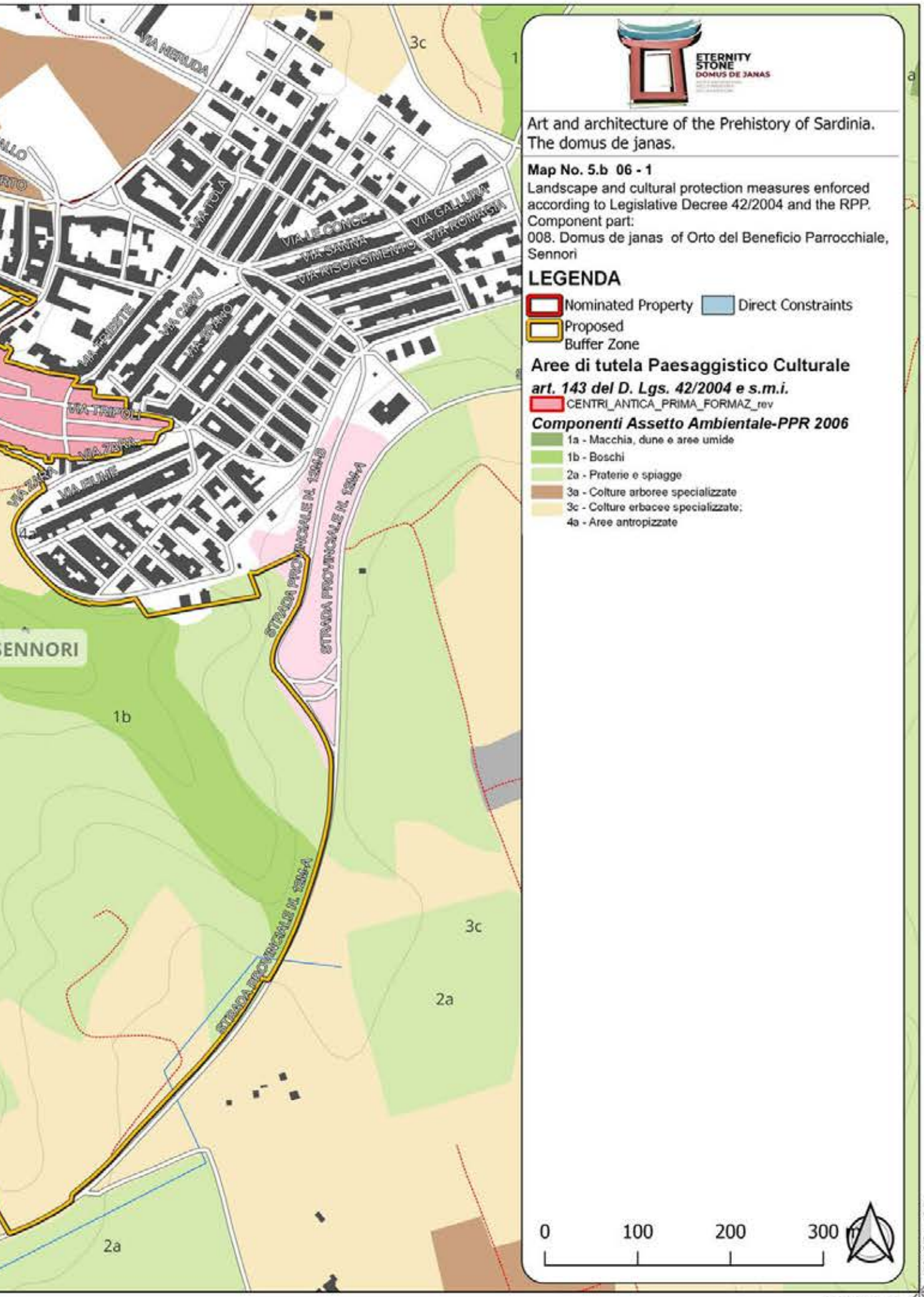

8°23'43,64"E
40°49'39,26"N
40°46'27,92"N
8°23'43,64"E
ANDRIOLU
SERRA DI POZZO
M. PERRIZZA
MACCIA APPALTADDA
PUNTA DI LU CAPPOTTU
Villa Noce
Cant.ra Lipedriazzi
STRADA PROVINCIALE SAN GIACOMO SORSO N. 26
M. FERRAINAGGU
NURAGHEDDU
PORTO TORRES
EX STRADA STATALE CARLO FELICE N. 131
CROCIFISSU
TANCA S'OSILESU
MONTE RUINA
LI LIONI
CAMUSCINA
LUZZANA DI CHERCHI
CA'BULA MUNTONES
BUGIAGONI
SANTA CATERINA
N.ghe Estru
CUCULAGIU
GIUGANTI
CHERCHI
STRADA VICINALE PONTI PIZZINNU
N.ghe Ferru
CULETTA
BADDE RUCCU
FRADES MUROS
C. Lombard
MACCIA
BADDE URPINO
Pod.e N.7
Pod.e N.7
Pod.e N.9
SU GIAU
Pod.e N.10
N.ghe Speranza
Pod.e N.11
PIAN DE SORRE
CALARIGGIU
TIDULA
(Coordinate vertici EPSG 6707

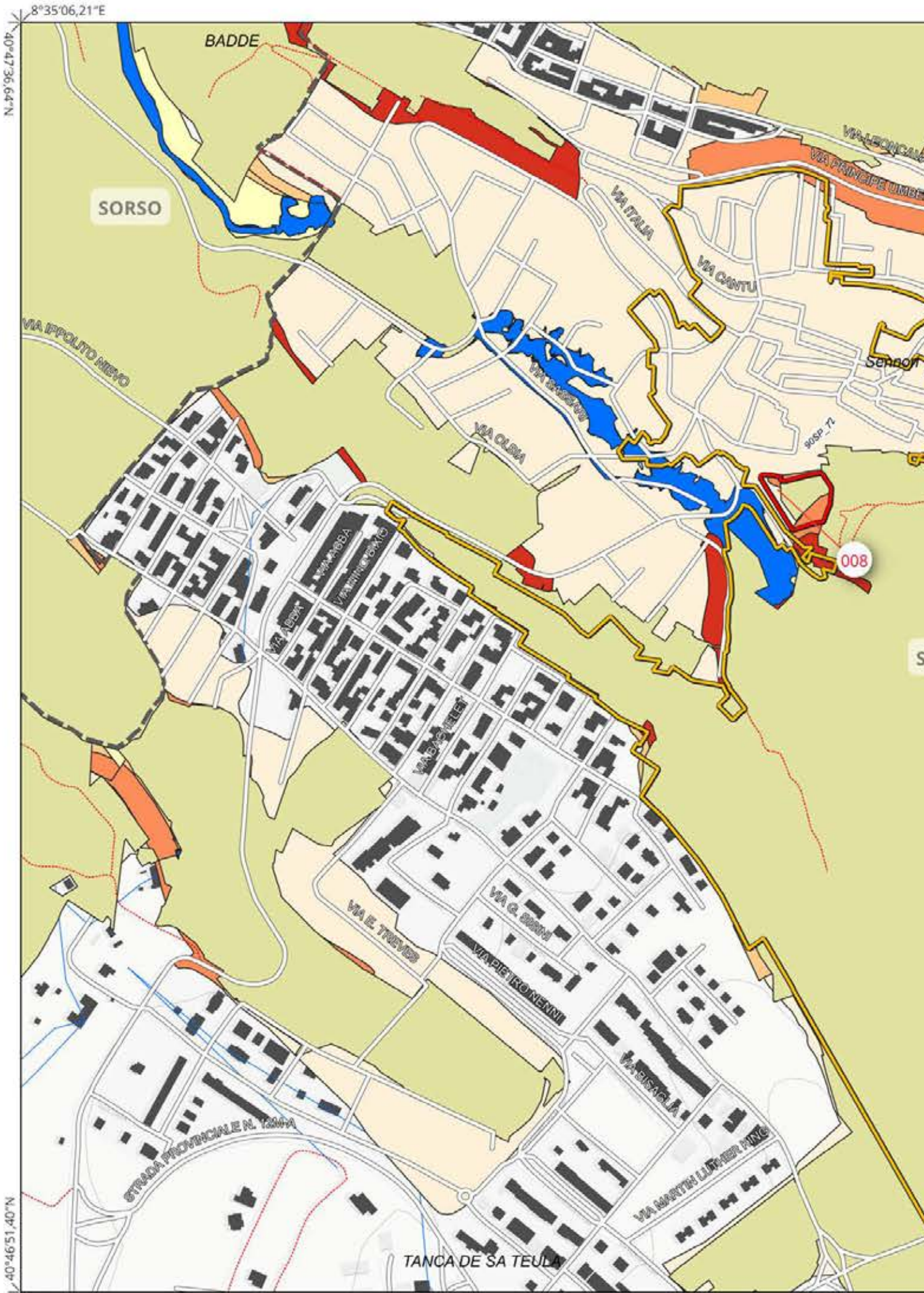

T.re di Abbacurrente
Platamona
Fatt.a di Abbacurrente
ABBACURRENTE
007
MANNU
90SP_25
P.zo di Monte Rasu
MONTE RASU
SS_131
MONTE RASU
EX STRADA STATALE CARLO FELICE N.131
SASSARI
PULTIGALI
LA CORRA
Fte Sacco
MONTE DACCODDI
SPINA SANTA
Agostino
ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 5.b 05 - 2
Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component parts:
006. Sanctuary of Monte d'Accoddi, Sassari
007. Su Crucifissu Mannu, Porto Torres
LEGENDA
Nominated Property
Proposed Buffer Zone
Aree di Tutela Ambientale
Aree vincolate per scopi idrogeologici
Vincolo_Idrogeologico_Sardegna_Art_1-9-18
ART. 9 NTA PAI
PAI_Piano_Assetto_idrogeologico
Pericolo_Idraulico_PAI_PGRA_Rev_Dic_22
Hi1 - P1 (Aree a pericolosità Idr. Moderata o Fascia Geomorfologica)
Hi2 - P2 (Aree a pericolosità Idr. Media)
Hi3 - P2 (Aree a pericolosità Idr. Elevata)
Hi4 - P3 (Aree a pericolosità Idr. Molto Elevata)
Pericolo_Geomorfologico_PAI_PGRA_Rev_Dic_22
Hg1
Hg2
Hg3
Hg4
Aree di tutela Ambientale
Aree_presenza_di_specie_animali_tutelate da_convenzioni_internazionali
Oasi_permanenti_di_protezione_faunistica e_di_cattura_istituite
Oasi_permanenti_di_protezione_faunistica e_di_cattura_proposte
Sic_Zsc_dic_2021
ZSC
Unità Gestionali Base Ente Foreste
Aree Recupero Ambientale - PPR2006
scavi
0
400
800
1.200 m
40°46'27.92"N
8°29'41.09"E


8°23'43,64"E
40°49'39,26"N
40°46'27,92"N
8°23'43,64"E
H1.02
PORTO TORRES
STRADA PROVINCIALE SAN GIACOMO SCORCIO N. 35
EX STRADA STATALE CAPO FIGARI N. 131
H1.02
H1.02
H1.02
H1
RIU GALARU
H1
H1
STRADA VICINALE PONTI PIZZINNU
H1
H1
RIU MANNU
(Coordinate vertici EPSG 6707)

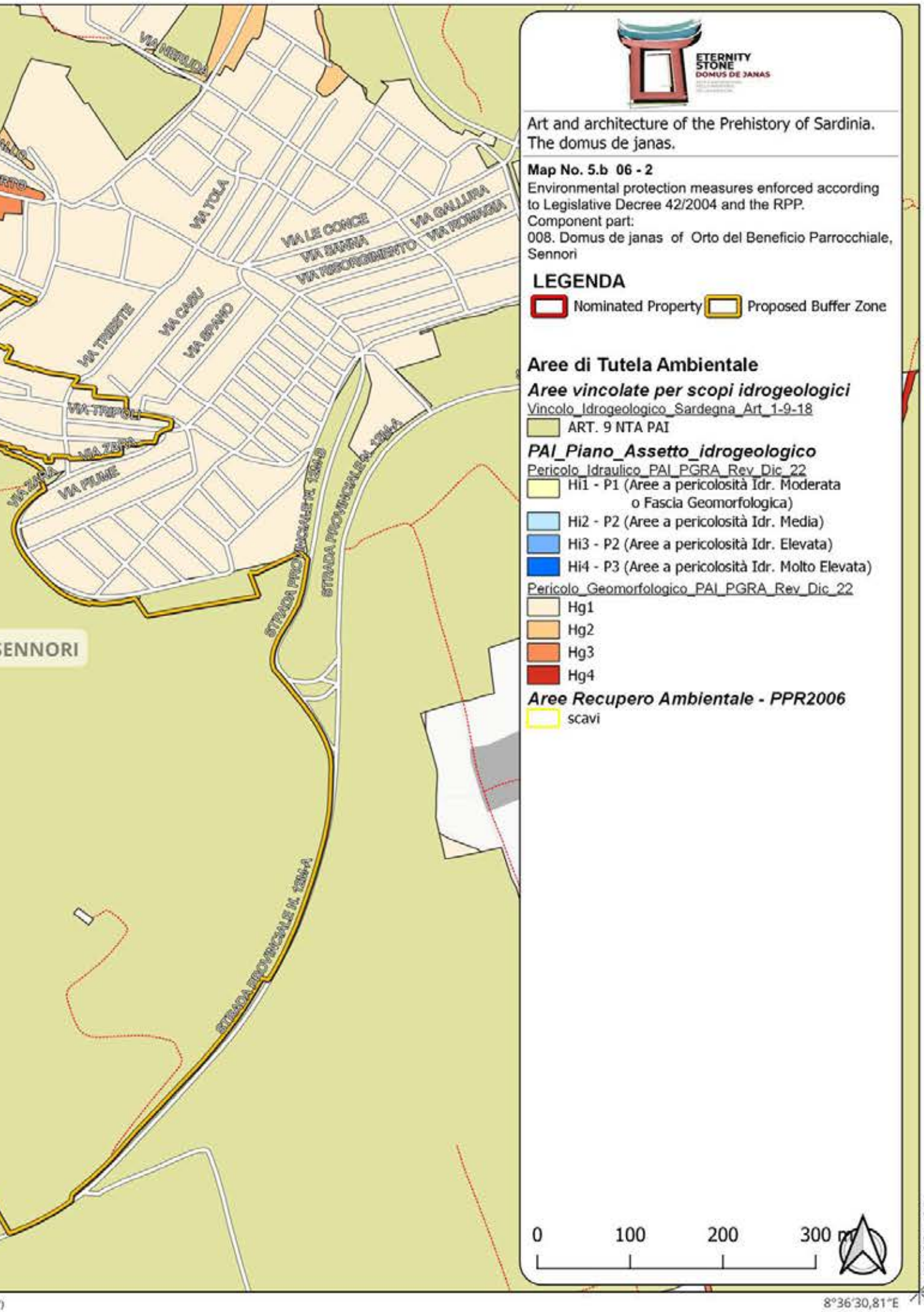

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 5.b 05 - 3
Additional protection measures according to the
Municipal Urban Plans.
Components parts:
006. Sanctuary of Monte d'Accoddi, Sassari
007. Su Crucifissu Mannu, Porto Torres
LEGENDA
Nominated Property
Proposed Buffer Zone
Aree di tutela PUC
Full Protection
Conditional Protection
0
400
800
1.200 m
007
SASSARI
H1
STRADA COMUNALE PLATAMONA
STRADA STATALE CARLOFORTE N. 131
STRADA VICINALE SETTA SANTA PULTIGHE
STRADA VICINALE MASCIA GIULETTA
40°46'27.92"N
8°29'41.09"E


8°35'06,21"E
40°47'36,64"N
40°46'51,40"N
8°35'06,21"E
BADDE
SORSO
TANCA DE SA TEULA
008
1b
2a
3a
3c
4a
VIA IPPOLITO NIEVO
VIA CANTU
VIA SASSARI
VIA ALBA
VIA TORINO
VIA BASILICATA
VIA E. TREVES
VIA G. BRUNI
VIA PIETRO MENNI
VIA MARTIN LUTHER KING
STRADA PROVINCIALE N. 134 A


ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 5.b 06 - 1
Landscape and cultural protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
008. Domus de janas of Orto del Beneficio Parrocchiale, Sennori
LEGENDA
Nominated Property
Direct Constraints
Proposed Buffer Zone
Aree di tutela Paesaggistico Culturale
art. 143 del D. Lgs. 42/2004 e s.m.i.
CENTRI_ANTICA_PRIMA_FORMAZ_rev
Componenti Assetto Ambientale-PPR 2006
1a - Macchia, dune e aree umide
1b - Boschi
2a - Praterie e spiagge
3a - Colture arboree specializzate
3c - Colture erbacee specializzate;
4a - Aree antropizzate
SENNORI
STRADA PROVINCIALE N. 129/A
STRADA PROVINCIALE N. 129/B
VIA NERUDA
VIA TRIPOLI
VIA ROMA
VIA GALLURA
1b
2a
3c
4a
0
100
200
300 m
40°46'51,40"N
8°36'30,81"E



(Coordinate vertici EPSG 6707



ETERNITY STONE
DOMUS DE JANAS

Art and architecture of the Prehistory of Sardinia.
The domus de janas.

Map No. 5.b 06 - 2

Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
008. Domus de janas of Orto del Beneficio Parrocchiale, Sennori

LEGENDA

Nominated Property
Proposed Buffer Zone

Aree di Tutela Ambientale

Aree vincolate per scopi idrogeologici

Vincolo_Idrogeologico_Sardegna_Art_1-9-18

ART. 9 NTA PAI

PAI_Piano_Assetto_idrogeologico

Pericolo_Idraulico_PAI_PGRA_Rev_Dic_22

Hi1 - P1 (Aree a pericolosità Idr. Moderata o Fascia Geomorfologica)
Hi2 - P2 (Aree a pericolosità Idr. Media)
Hi3 - P2 (Aree a pericolosità Idr. Elevata)
Hi4 - P3 (Aree a pericolosità Idr. Molto Elevata)

Pericolo_Geomorfologico_PAI_PGRA_Rev_Dic_22

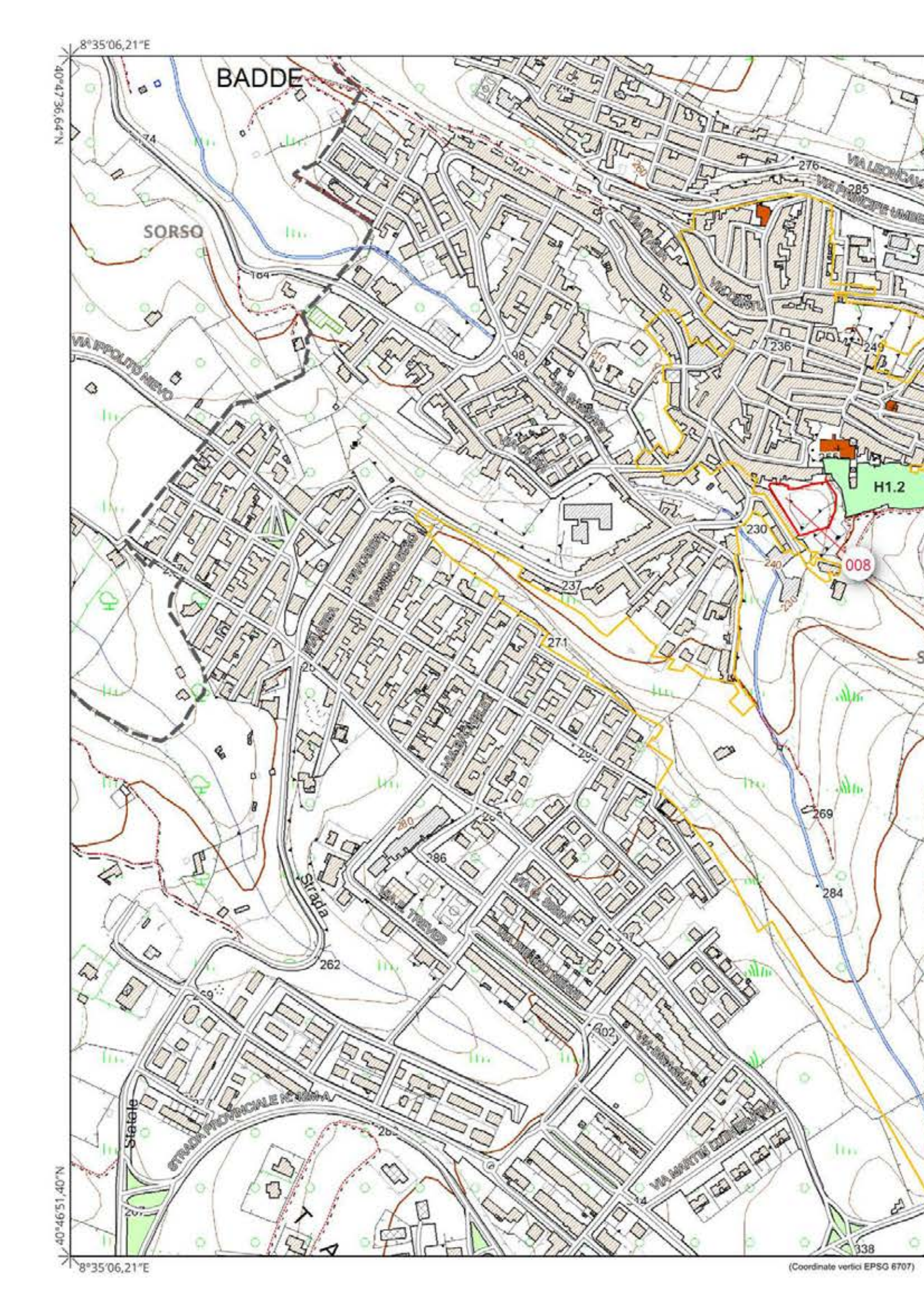
Hg1
Hg2
Hg3
Hg4

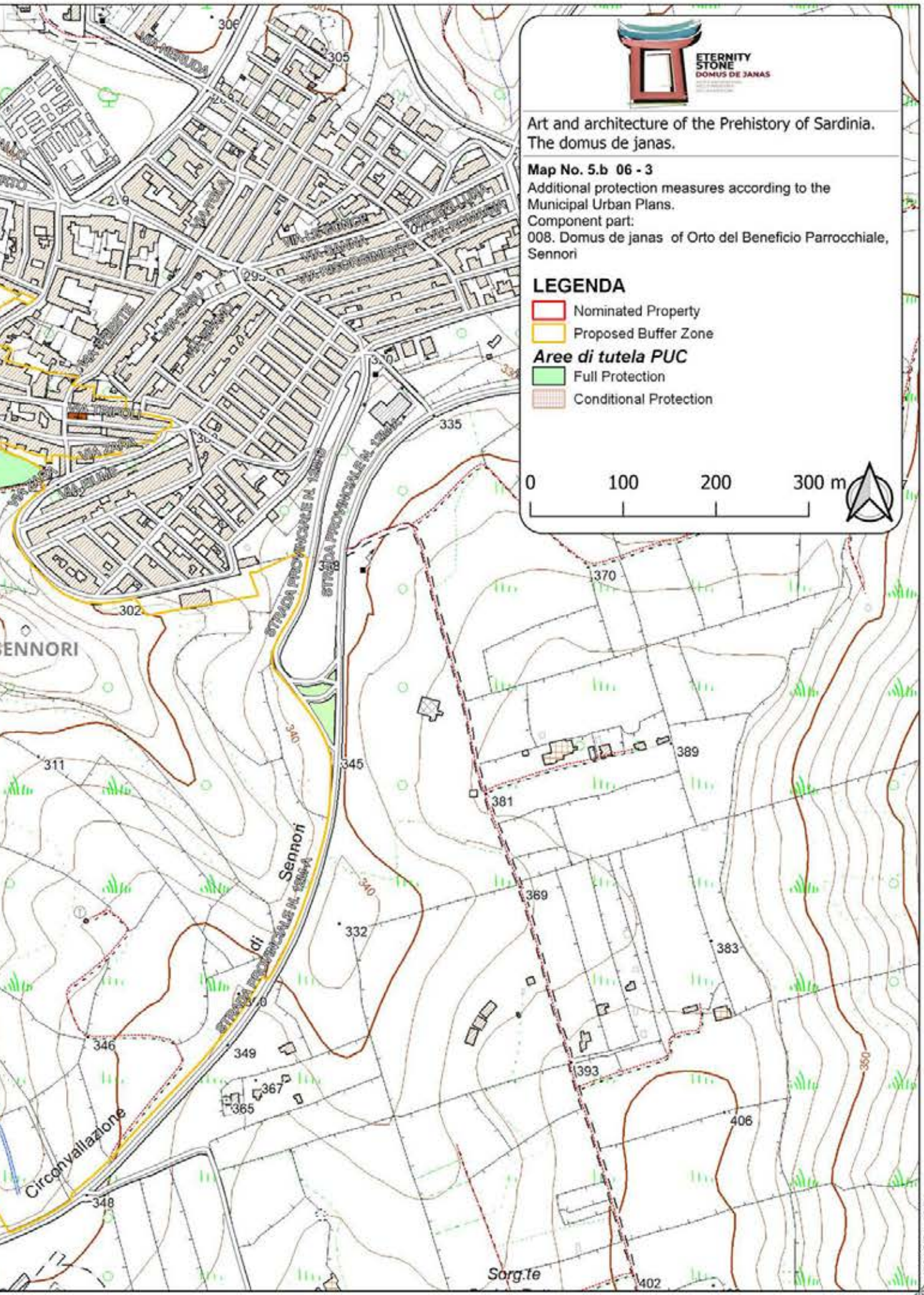
Aree Recupero Ambientale - PPR2006

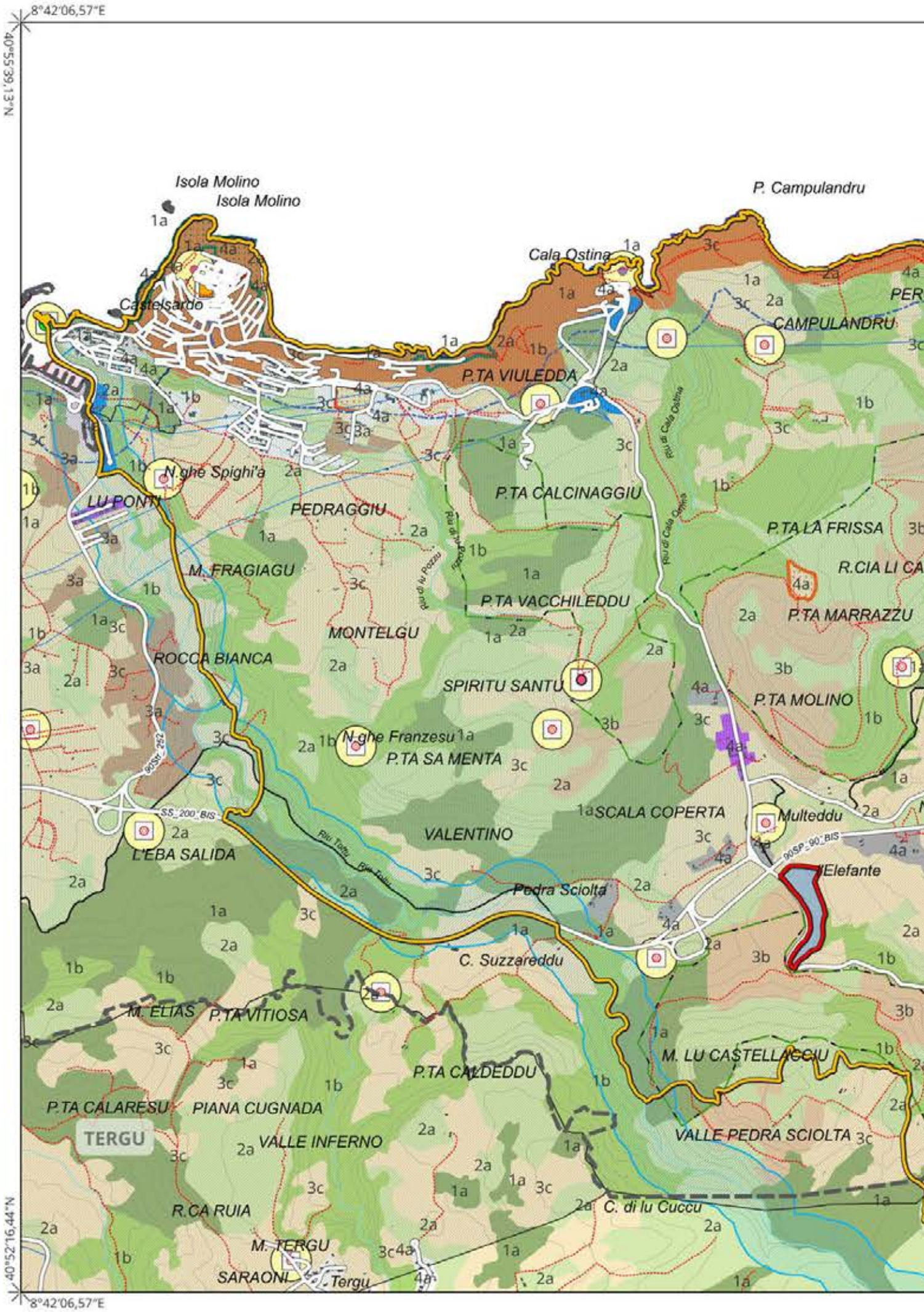
scavi

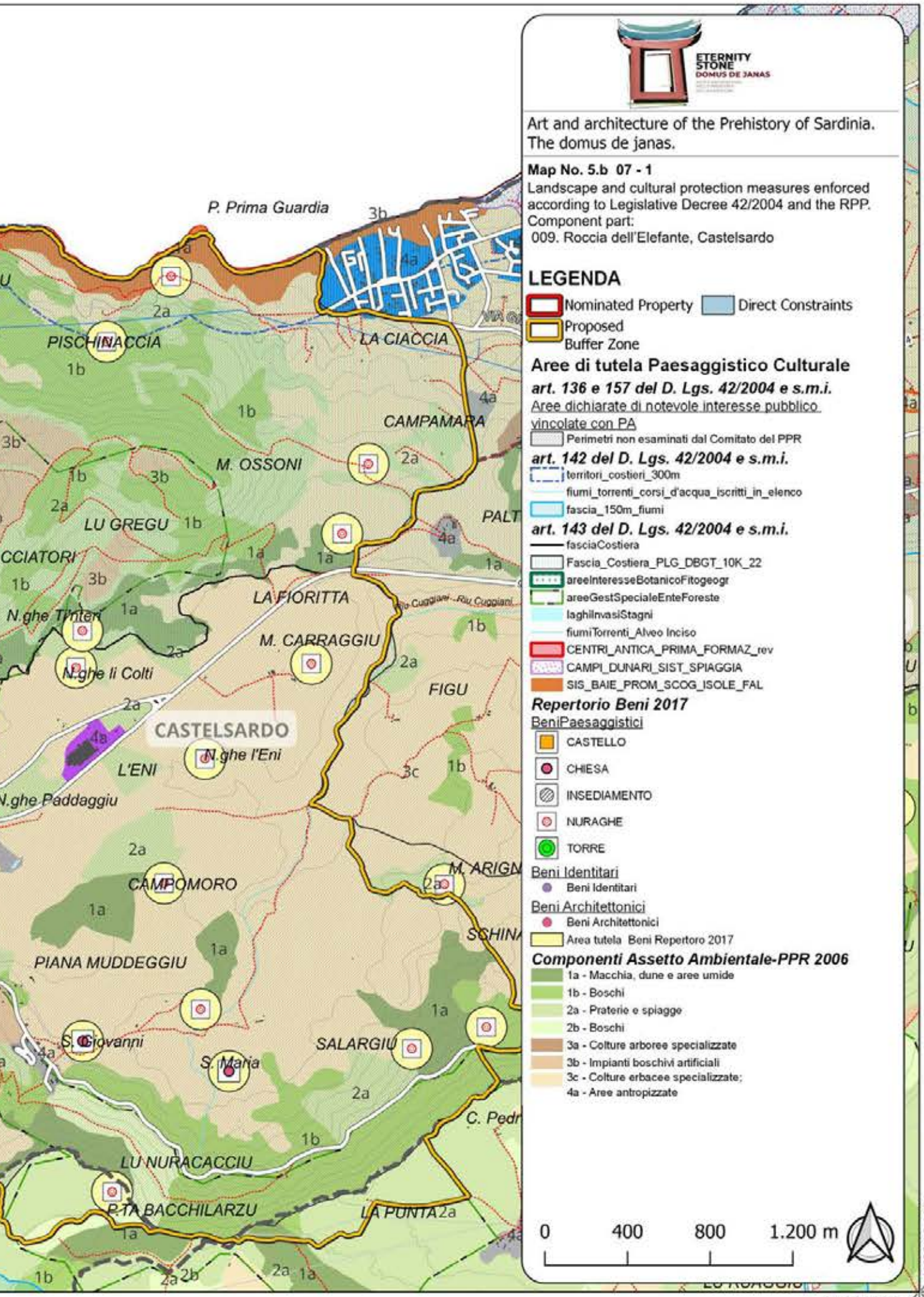
0 100 200 300 m

40°46'51,40"N
8°36'30,81"E


8°35'06,21"E
40°47'36,64"N
40°46'51,40"N
8°35'06,21"E
BADDE
SORSO
H1.2
008
Strada
Statale
(Coordinate vertici EPSG 6707)


ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 5.b 06 - 3
Additional protection measures according to the
Municipal Urban Plans.
Component part:
008. Domus de janas of Orto del Beneficio Parrocchiale,
Sennori
LEGENDA
Nominated Property
Proposed Buffer Zone
Aree di tutela PUC
Full Protection
Conditional Protection
0
100
200
300 m
SENNORI
STRADA PROVINCIALE N. 129/D
STRADA PROVINCIALE N. 129/A
Circonvallazione
Sorg.te
40°46'51,40"N
8°36'30,81"E


8°42'06,57"E
40°55'39,13"N
40°52'16,44"N
8°42'06,57"E
Isola Molino
Isola Molino
P. Campulandru
Cala Ostina
Castelsardo
CAMPULANDRU
P.TA VIULEDDA
N.ghe Spighi'a
LU PONTI
PEDRAGGIU
P.TA CALCINAGGIU
P.TA LA FRISSA
M. FRAGIAGU
P.TA VACCHILEDDU
P.TA MARRAZZU
MONTELGU
ROCCA BIANCA
SPIRITU SANTU
P.TA MOLINO
N.ghe Franzesu
P.TA SA MENTA
SCALA COPERTA
Multeddu
VALENTINO
L'EBA SALIDA
Pedra Sciolta
C. Suzzareddu
M. ELIAS
P.TA VITIOSA
M. LU CASTELLACCIU
P.TA CALDEDDU
P.TA CALARESU
PIANA CUGNADA
TERGU
VALLE INFERNO
VALLE PEDRA SCIOLTA
R.CA RUIA
C. di lu Cuccu
M. TERGU
SARAONI
Tergu
SS_200_BIS
90SP_90_BIS
Riu di Cala Ostina
Riu Tolta



ETERNITY STONE
DOMUS DE JANAS

Art and architecture of the Prehistory of Sardinia.
The domus de janas.

Map No. 5.b 07 - 1

Landscape and cultural protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
009. Roccia dell'Elefante, Castelsardo

LEGENDA

Nominated Property
Direct Constraints
Proposed Buffer Zone

Aree di tutela Paesaggistico Culturale

art. 136 e 157 del D. Lgs. 42/2004 e s.m.i.

Aree dichiarate di notevole interesse pubblico vincolate con PA
Perimetri non esaminati dal Comitato del PPR

art. 142 del D. Lgs. 42/2004 e s.m.i.

territori_costieri_300m
fiumi_torrenti_corsi_d'acqua_iscritti_in_elenco
fascia_150m_fiumi

art. 143 del D. Lgs. 42/2004 e s.m.i.

fasciaCostiera
Fascia_Costiera_PLG_DBGT_10K_22
areeInteresseBotanicoFitogeogr
areeGestSpecialeEnteForeste
laghiInvasiStagni
fiumiTorrenti_Alveo Inciso
CENTRI_ANTICA_PRIMA_FORMAZ_rev
CAMPI_DUNARI_SIST_SPIAGGIA
SIS_BAIE_PROM_SCOG_ISOLE_FAL

Repertorio Beni 2017

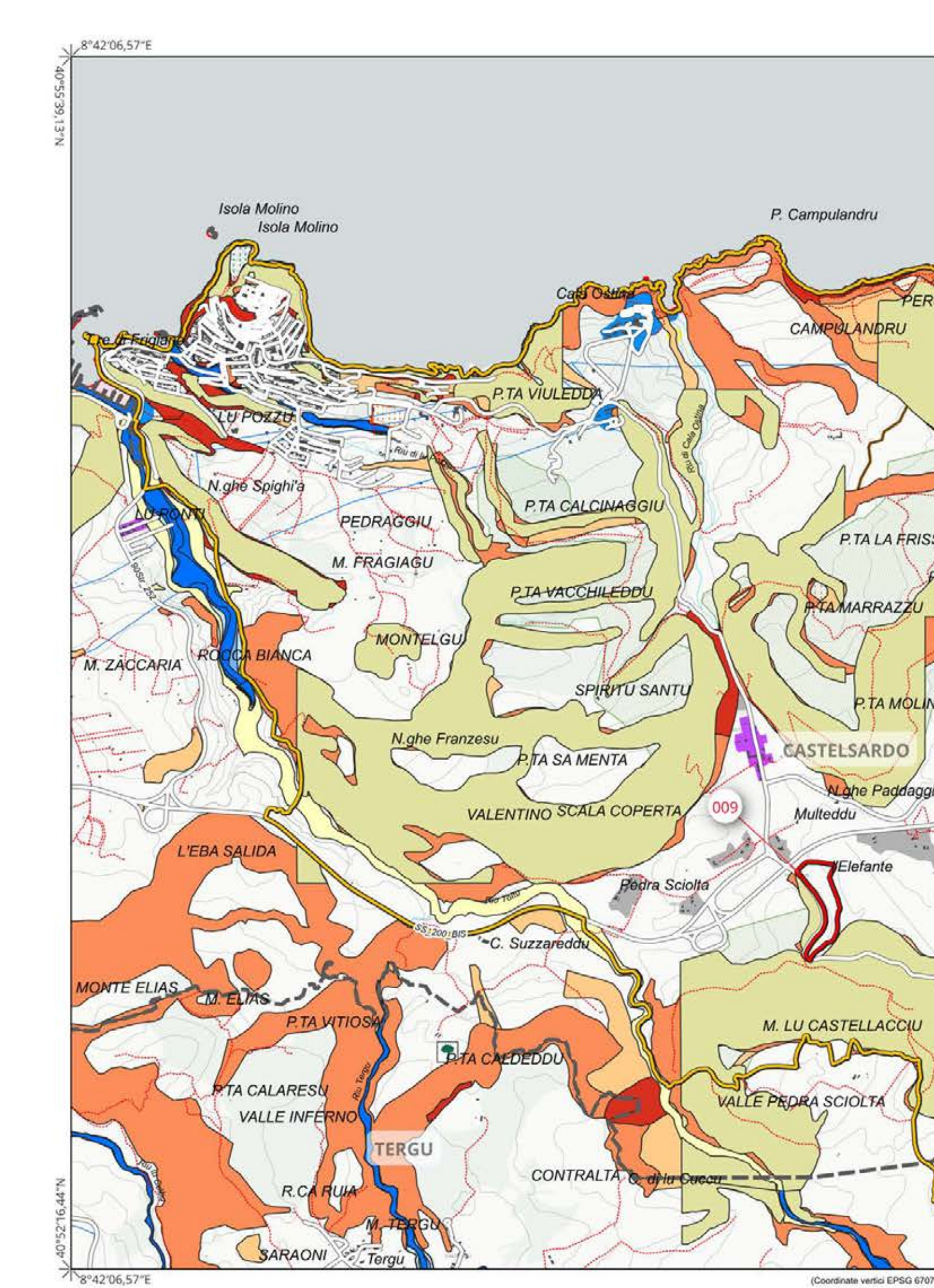
BeniPaesaggistici
CASTELLO
CHIESA
INSEDIAMENTO
NURAGHE
TORRE

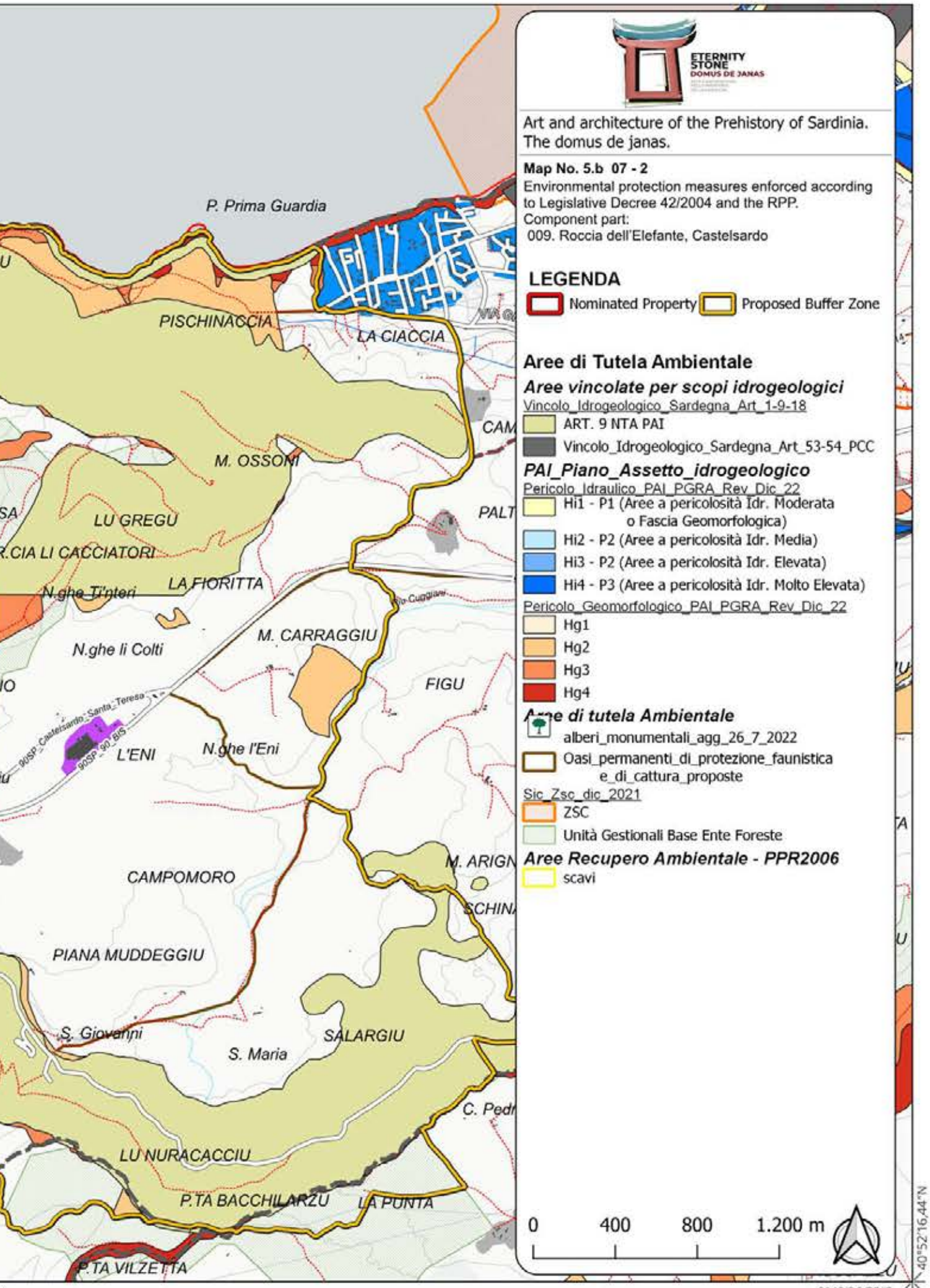
Beni Identitari
Beni Identitari

Beni Architettonici
Beni Architettonici
Area tutela Beni Repertoro 2017

Componenti Assetto Ambientale-PPR 2006

1a - Macchia, dune e aree umide
1b - Boschi
2a - Praterie e spiagge
2b - Boschi
3a - Colture arboree specializzate
3b - Impianti boschivi artificiali
3c - Colture erbacee specializzate;
4a - Aree antropizzate


8°42'06,57"E
40°55'39,13"N
40°52'16,44"N
8°42'06,57"E
Isola Molino
Isola Molino
P. Campulandru
Cala Ostina
CAMPULANDRU
P.TA VIULEDDA
LU POZZU
Riu di Cala Ostina
N.ghe Spighi'a
P.TA CALCINAGGIU
LU RONTI
PEDRAGGIU
M. FRAGIAGU
P.TA VACCHILEDDU
P.TA MARRAZZU
MONTELGU
M. ZACCARIA
ROCCA BIANCA
SPIRITU SANTU
N.ghe Franzesu
CASTELSARDO
P.TA SA MENTA
VALENTINO
SCALA COPERTA
009
Multeddu
L'EBA SALIDA
Pedra Sciolta
SS 200 BIS
C. Suzzareddu
MONTE ELIAS
M. ELIAS
P.TA VITIOSA
M. LU CASTELLACCIU
P.TA CALDEDDU
P.TA CALARESU
VALLE INFERNO
Riu Tergu
VALLE PEDRA SCIOLTA
TERGU
CONTRALTA
C. di lu Cuccu
R.CA RUIA
M. TERGU
SARAONI
Tergu
(Coordinate vertici EPSG 6707



ETERNITY STONE
DOMUS DE JANAS

Art and architecture of the Prehistory of Sardinia.
The domus de janas.

Map No. 5.b 07 - 2
Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
009. Roccia dell'Elefante, Castelsardo

LEGENDA

Nominated Property
Proposed Buffer Zone

Aree di Tutela Ambientale

Aree vincolate per scopi idrogeologici

Vincolo_Idrogeologico_Sardegna_Art_1-9-18
- ART. 9 NTA PAI
- Vincolo_Idrogeologico_Sardegna_Art_53-54_PCC

PAI_Piano_Assetto_idrogeologico

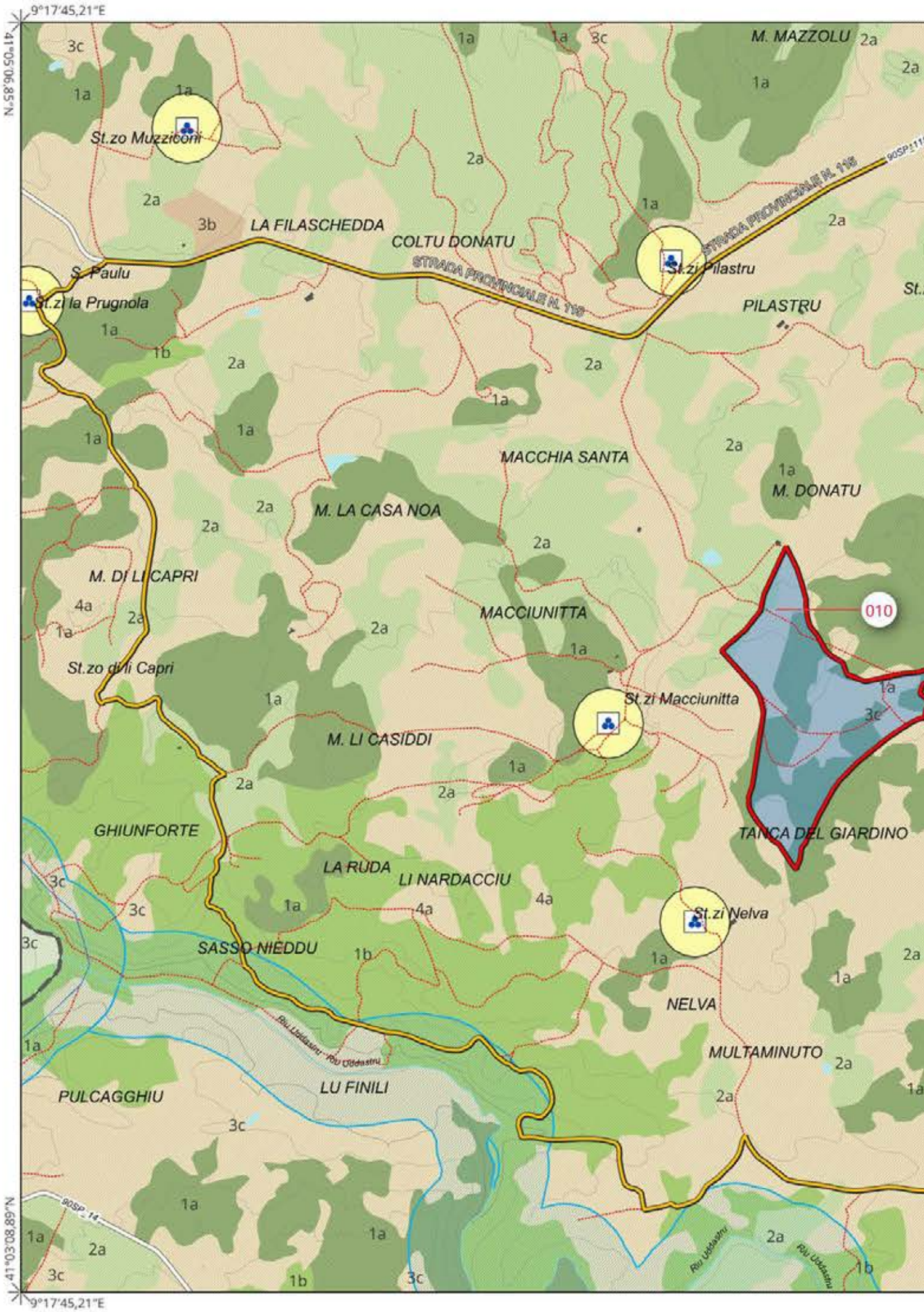
Pericolo_Idraulico_PAI_PGRA_Rev_Dic_22
- Hi1 - P1 (Aree a pericolosità Idr. Moderata o Fascia Geomorfologica)
- Hi2 - P2 (Aree a pericolosità Idr. Media)
- Hi3 - P2 (Aree a pericolosità Idr. Elevata)
- Hi4 - P3 (Aree a pericolosità Idr. Molto Elevata)

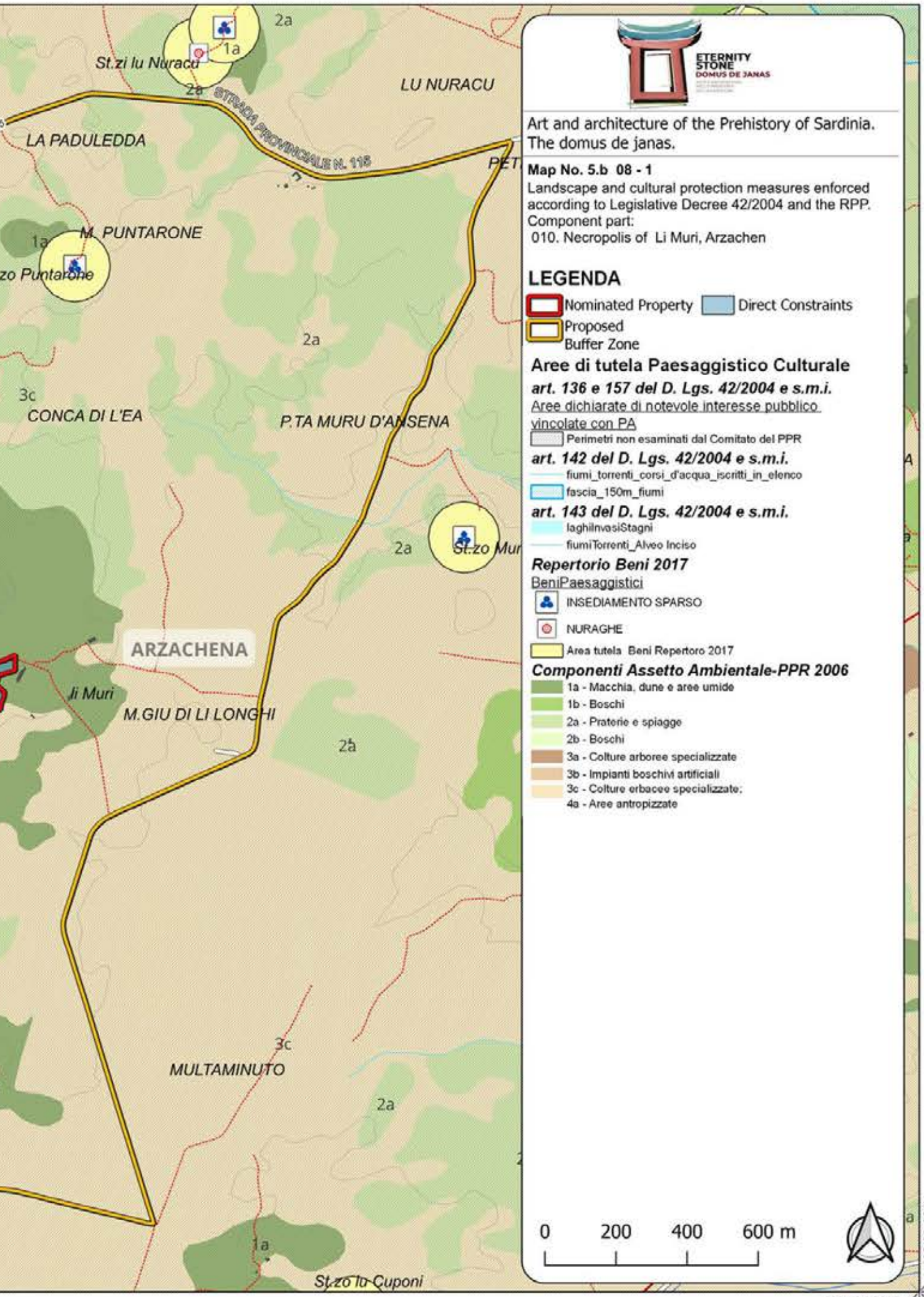
Pericolo_Geomorfologico_PAI_PGRA_Rev_Dic_22
- Hg1
- Hg2
- Hg3
- Hg4

Aree di tutela Ambientale
- alberi_monumentali_agg_26_7_2022
- Oasi_permanenti_di_protezione_faunistica e_di_cattura_proposte

Sic_Zsc_dic_2021
- ZSC
- Unità Gestionali Base Ente Foreste

Aree Recupero Ambientale - PPR2006
- scavi


9°17'45,21"E
41°05'08,89"N
M. MAZZOLU
St.zo Muzziconi
LA FILASCHEDDA
COLTU DONATU
STRADA PROVINCIALE N. 116
S. Paulu
St.zi la Prugnola
St.zi Pilastru
PILASTRU
MACCHIA SANTA
M. DONATU
M. LA CASA NOA
M. DI LI CAPRI
St.zo di li Capri
MACCIUNITTA
St.zi Macciunitta
010
M. LI CASIDDI
GHIUNFORTE
TANCA DEL GIARDINO
LA RUDA
LI NARDACCIU
St.zi Nelva
SASSO NIEDDU
NELVA
MULTAMINUTO
Riu Uddastru
LU FINILI
PULCAGGHIU
90SP_14
41°03'08,89"N
9°17'45,21"E



ETERNITY STONE
DOMUS DE JANAS

Art and architecture of the Prehistory of Sardinia.
The domus de janas.

Map No. 5.b 08 - 1

Landscape and cultural protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
010. Necropolis of Li Muri, Arzachen

LEGENDA

Nominated Property
Direct Constraints
Proposed Buffer Zone

Aree di tutela Paesaggistico Culturale

art. 136 e 157 del D. Lgs. 42/2004 e s.m.i.

Aree dichiarate di notevole interesse pubblico vincolate con PA

Perimetri non esaminati dal Comitato del PPR

art. 142 del D. Lgs. 42/2004 e s.m.i.

fiumi_torrenti_corsi_d'acqua_iscritti_in_elenco
fascia_150m_fiumi

art. 143 del D. Lgs. 42/2004 e s.m.i.

laghiInvasiStagni
fiumiTorrenti_Alveo Inciso

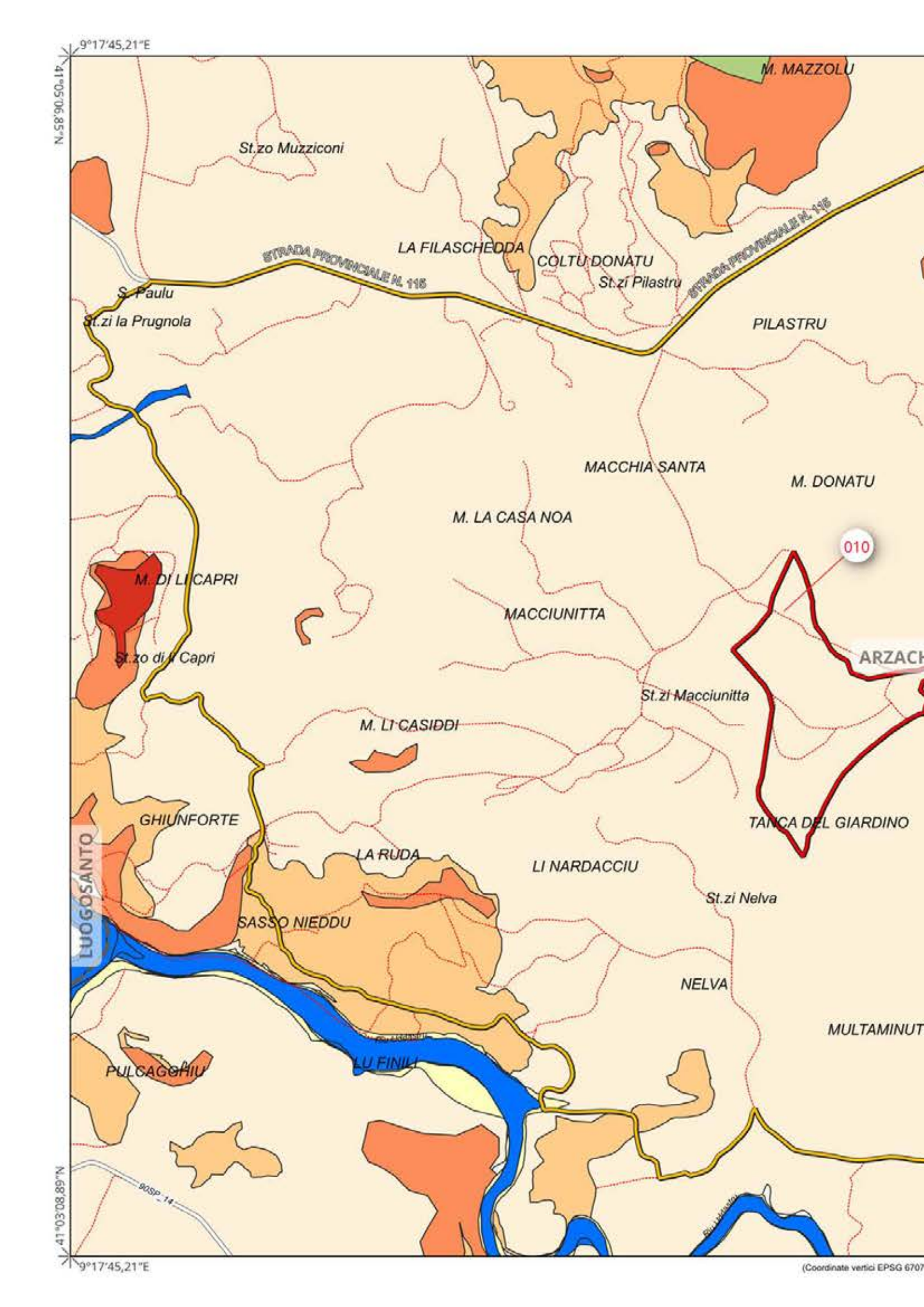
Repertorio Beni 2017

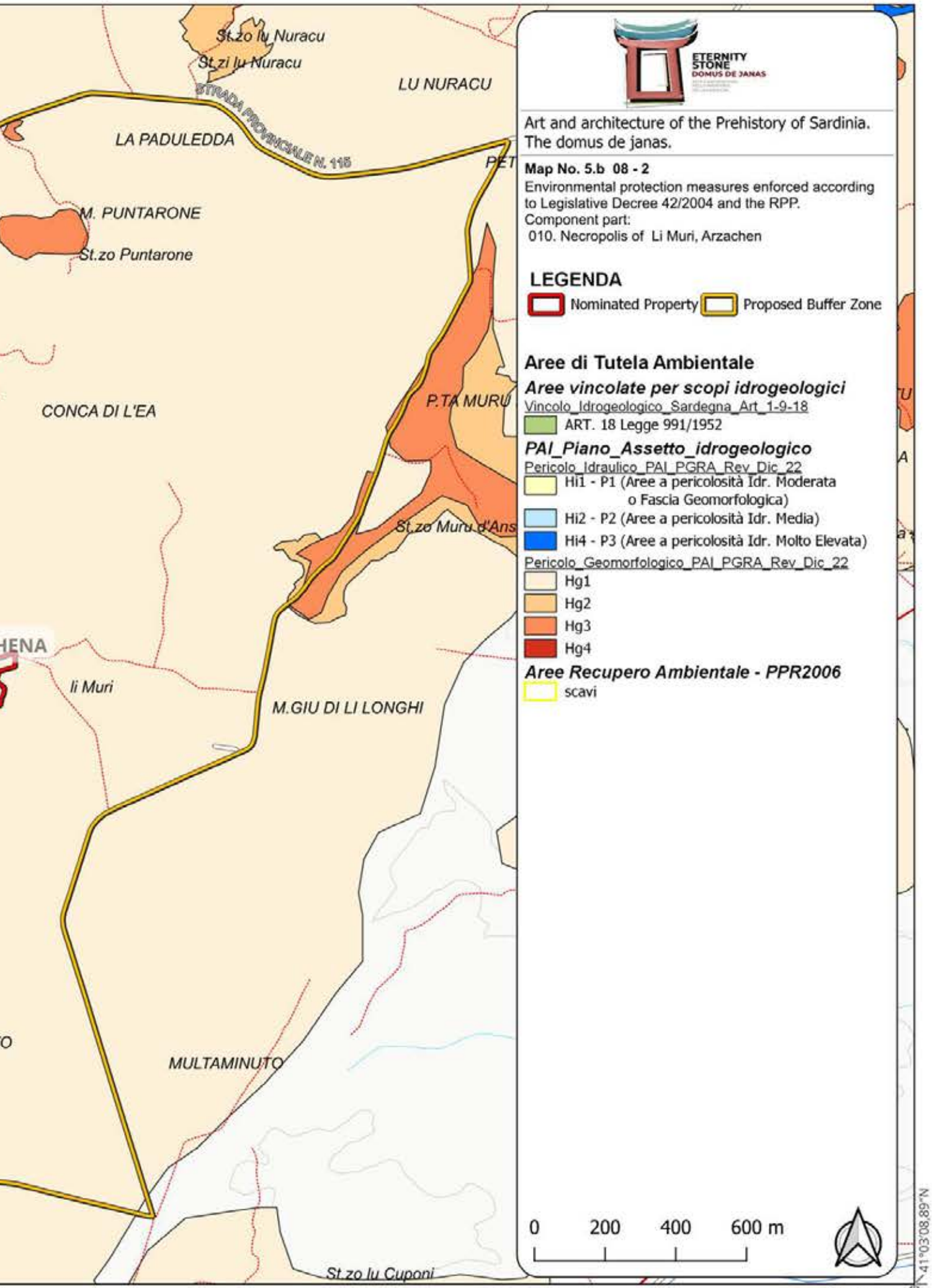
BeniPaesaggistici

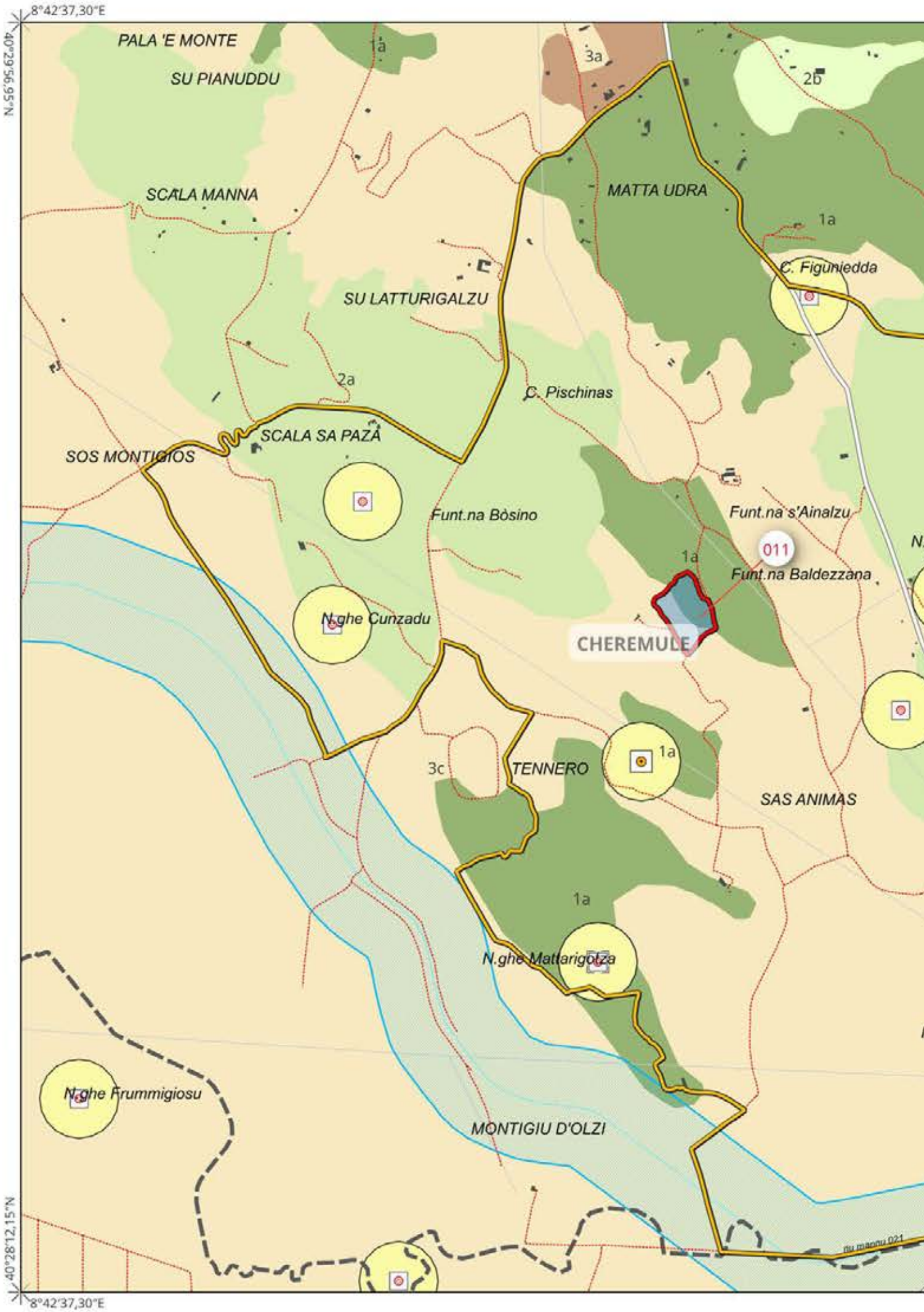
INSEDIAMENTO SPARSO
NURAGHE
Area tutela Beni Repertoro 2017

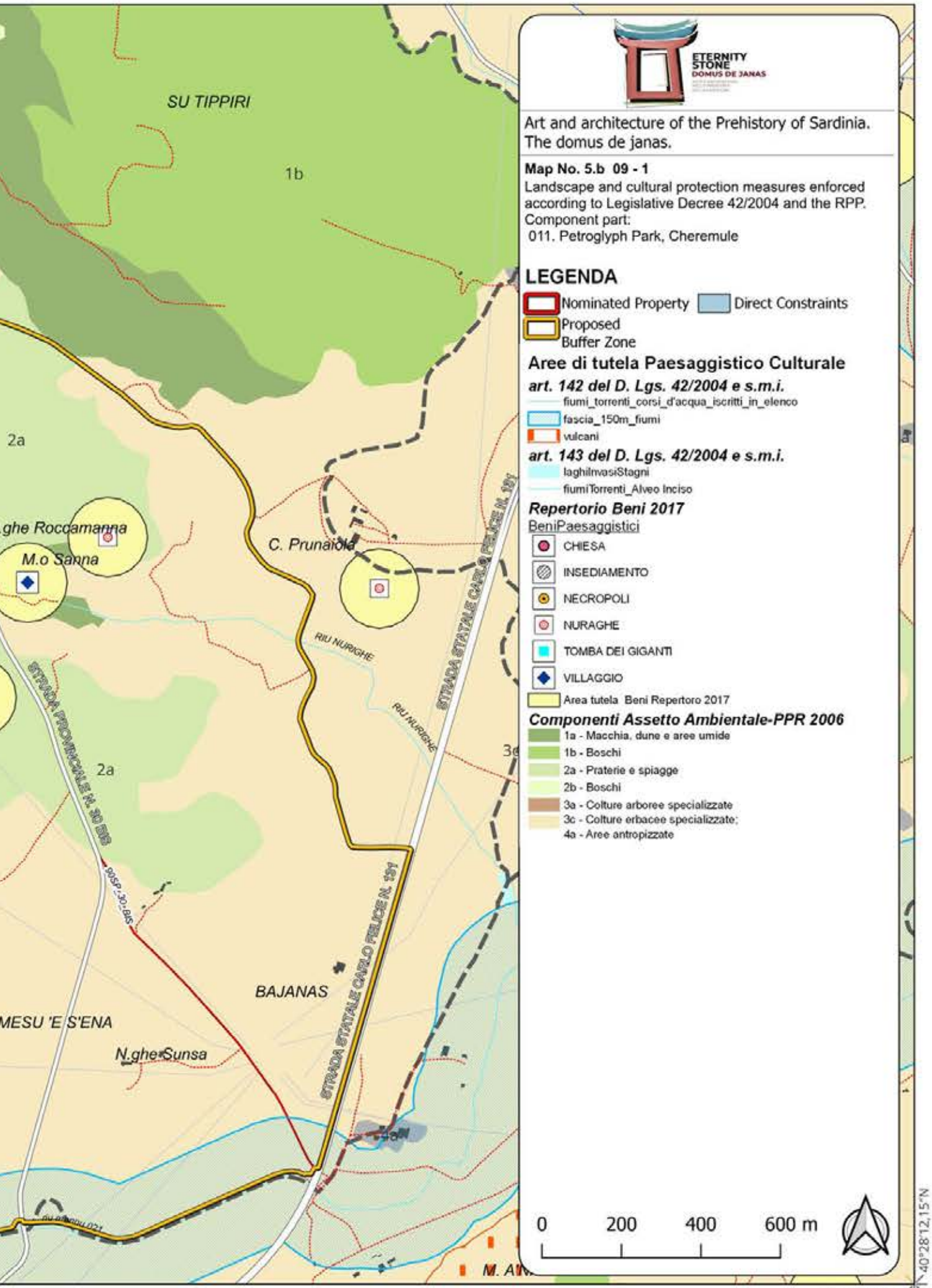
Componenti Assetto Ambientale-PPR 2006

1a - Macchia, dune e aree umide
1b - Boschi
2a - Praterie e spiagge
2b - Boschi
3a - Colture arboree specializzate
3b - Impianti boschivi artificiali
3c - Colture erbacee specializzate;
4a - Aree antropizzate


9°17'45,21"E
41°04'58,85"N
M. MAZZOLU
St.zo Muzziconi
STRADA PROVINCIALE N. 115
LA FILASCHEDDA
COLTU DONATU
St.zi Pilastru
S. Paulu
St.zi la Prugnola
PILASTRU
MACCHIA SANTA
M. DONATU
M. LA CASA NOA
010
M. DI LI CAPRI
MACCIUNITTA
St.zo di li Capri
St.zi Macciunitta
M. LI CASIDDI
GHIUNFORTE
TANCA DEL GIARDINO
LUOGOSANTO
LA RUDA
LI NARDACCIU
St.zi Nelva
SASSO NIEDDU
NELVA
MULTAMINUT
PULCAGGHIU
LU FINILI
90SP_14
41°03'08,89"N
9°17'45,21"E
(Coordinate vertici EPSG 6707


St.zo lu Nuracu
St.zi lu Nuracu
LU NURACU
STRADA PROVINCIALE N. 115
LA PADULEDDA
M. PUNTARONE
St.zo Puntarone
CONCA DI L'EA
P.TA MURU
St.zo Muru d'Ans
li Muri
M.GIU DI LI LONGHI
MULTAMINUTO
St.zo lu Cuponi
ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 5.b 08 - 2
Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
010. Necropolis of Li Muri, Arzachen
LEGENDA
Nominated Property
Proposed Buffer Zone
Aree di Tutela Ambientale
Aree vincolate per scopi idrogeologici
Vincolo_Idrogeologico_Sardegna_Art_1-9-18
ART. 18 Legge 991/1952
PAI_Piano_Assetto_idrogeologico
Pericolo_Idraulico_PAI_PGRA_Rev_Dic_22
Hi1 - P1 (Aree a pericolosità Idr. Moderata o Fascia Geomorfologica)
Hi2 - P2 (Aree a pericolosità Idr. Media)
Hi4 - P3 (Aree a pericolosità Idr. Molto Elevata)
Pericolo_Geomorfologico_PAI_PGRA_Rev_Dic_22
Hg1
Hg2
Hg3
Hg4
Aree Recupero Ambientale - PPR2006
scavi
0
200
400
600 m
41°03'08,89"N
9°21'26,88"E


8°42'37,30"E
40°29'56,95"N
PALA 'E MONTE
SU PIANUDDU
1a
3a
2b
SCALA MANNA
MATTA UDRA
1a
C. Figuniedda
SU LATTURIGALZU
2a
C. Pischinas
SCALA SA PAZÀ
SOS MONTIGIOS
Funt.na Bòsino
Funt.na s'Ainalzu
011
1a
Funt.na Baldezzana
N.ghe Cunzadu
CHEREMULE
1a
3c
TENNERO
SAS ANIMAS
1a
N.ghe Mattarigolza
N.ghe Frummigiosu
MONTIGIU D'OLZI
40°28'12,15"N
8°42'37,30"E



ETERNITY STONE
DOMUS DE JANAS

Art and architecture of the Prehistory of Sardinia.
The domus de janas.

Map No. 5.b 09 - 1

Landscape and cultural protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
011. Petroglyph Park, Cheremule

LEGENDA

Nominated Property
Direct Constraints
Proposed Buffer Zone

Aree di tutela Paesaggistico Culturale

art. 142 del D. Lgs. 42/2004 e s.m.i.

- fiumi_torrenti_corsi_d'acqua_iscritti_in_elenco
- fascia_150m_fiumi
- vulcani

art. 143 del D. Lgs. 42/2004 e s.m.i.

- laghiInvasiStagni
- fiumiTorrenti_Alveo Inciso

Repertorio Beni 2017

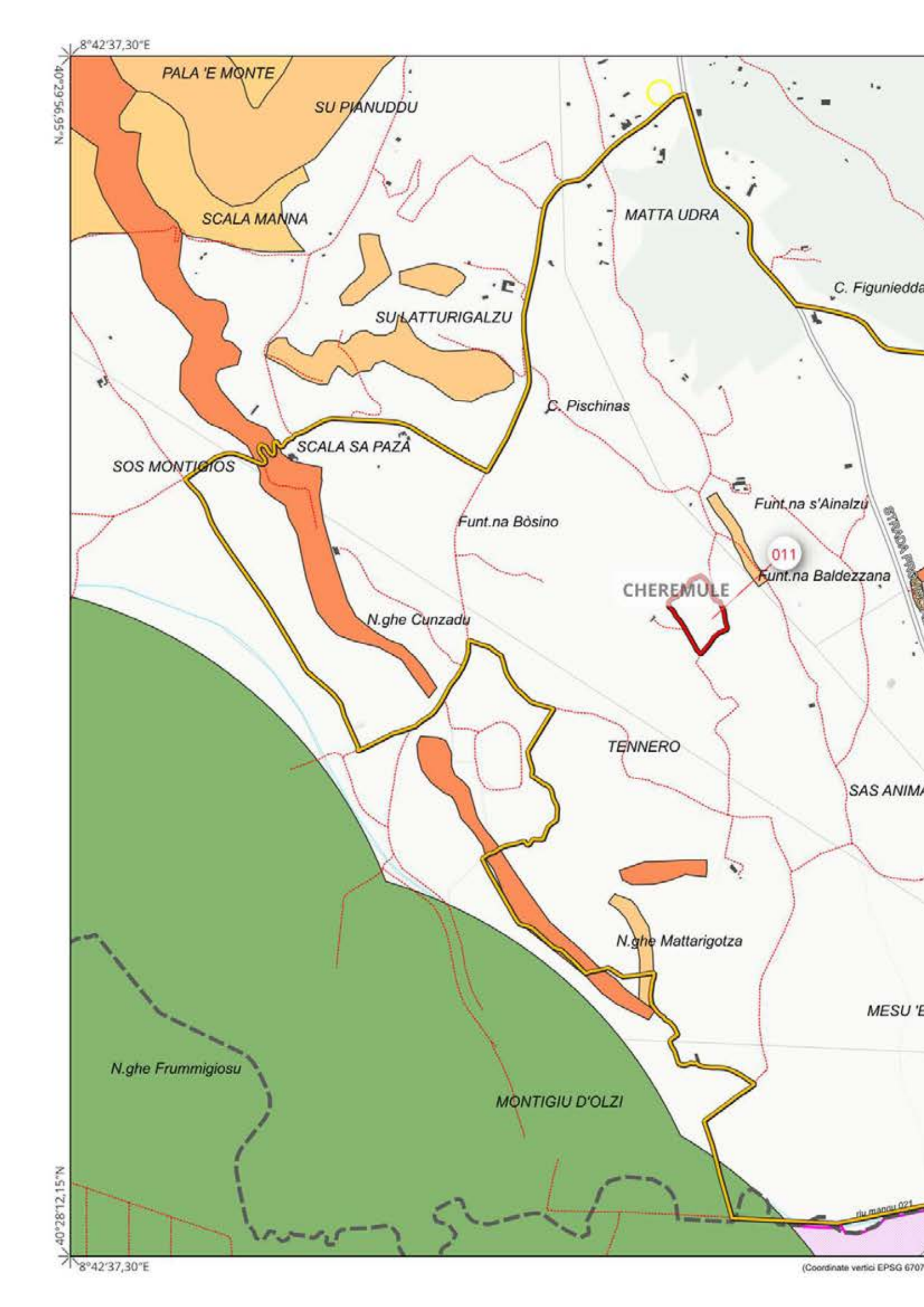
BeniPaesaggistici

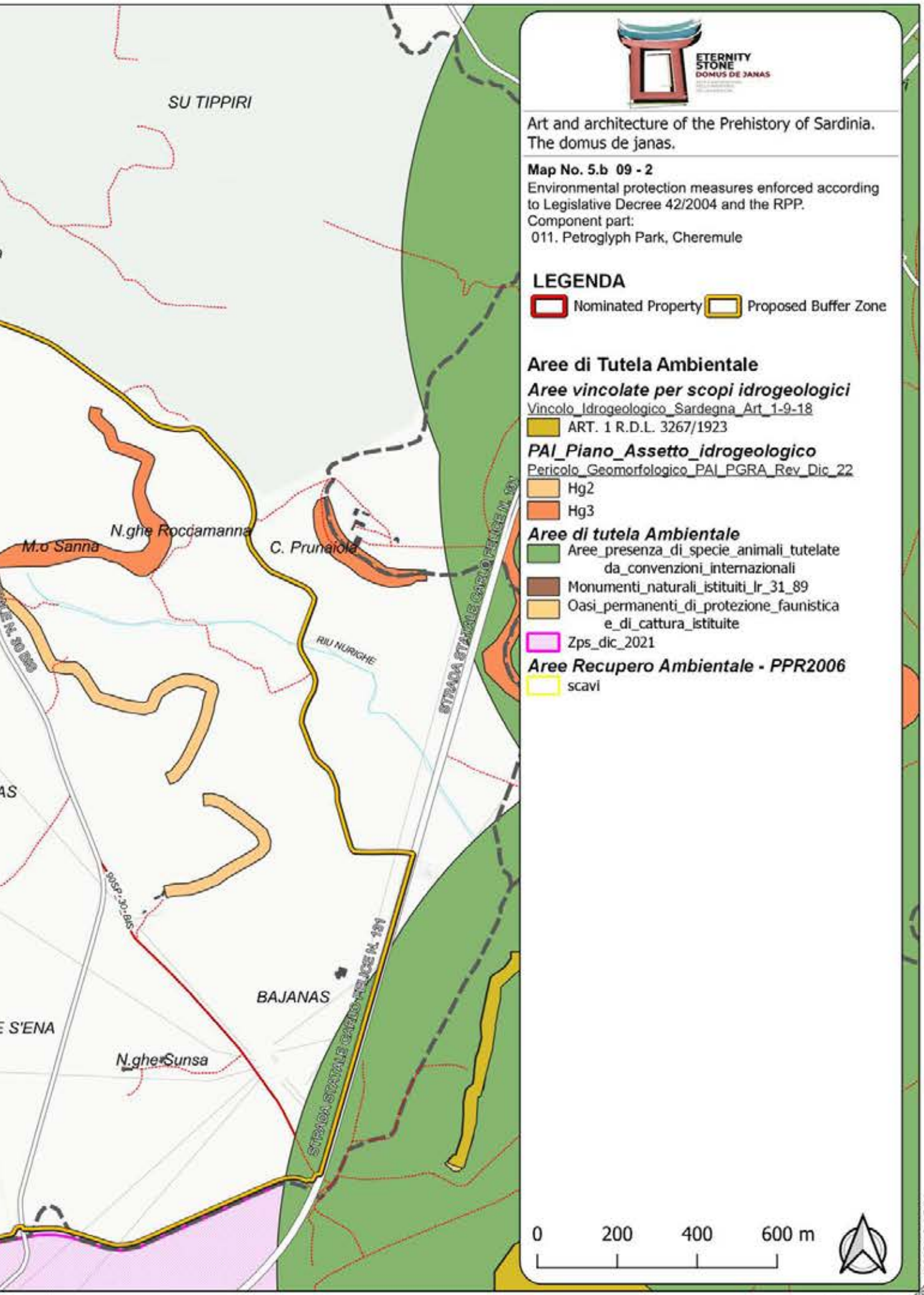
- CHIESA
- INSEDIAMENTO
- NECROPOLI
- NURAGHE
- TOMBA DEI GIGANTI
- VILLAGGIO

Area tutela Beni Repertoro 2017

Componenti Assetto Ambientale-PPR 2006

- 1a - Macchia, dune e aree umide
- 1b - Boschi
- 2a - Praterie e spiagge
- 2b - Boschi
- 3a - Colture arboree specializzate
- 3c - Colture erbacee specializzate;
- 4a - Aree antropizzate


8°42'37,30"E
40°29'56,95"N
PALA 'E MONTE
SU PIANUDDU
SCALA MANNA
MATTA UDRA
C. Figuniedda
SU LATTURIGALZU
C. Pischinas
SCALA SA PAZA
SOS MONTIGIOS
Funt.na Bòsino
Funt.na s'Ainalzu
011
Funt.na Baldezzana
CHEREMULE
N.ghe Cunzadu
TENNERO
SAS ANIMA
N.ghe Mattarigotza
MESU 'E
N.ghe Frummigiosu
MONTIGIU D'OLZI
40°28'12,15"N
8°42'37,30"E
(Coordinate vertici EPSG 6707



ETERNITY STONE
DOMUS DE JANAS

Art and architecture of the Prehistory of Sardinia.
The domus de janas.

Map No. 5.b 09 - 2

Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
011. Petroglyph Park, Cheremule

LEGENDA

Nominated Property
Proposed Buffer Zone

Aree di Tutela Ambientale

Aree vincolate per scopi idrogeologici

Vincolo_Idrogeologico_Sardegna_Art_1-9-18
ART. 1 R.D.L. 3267/1923

PAI_Piano_Assetto_idrogeologico

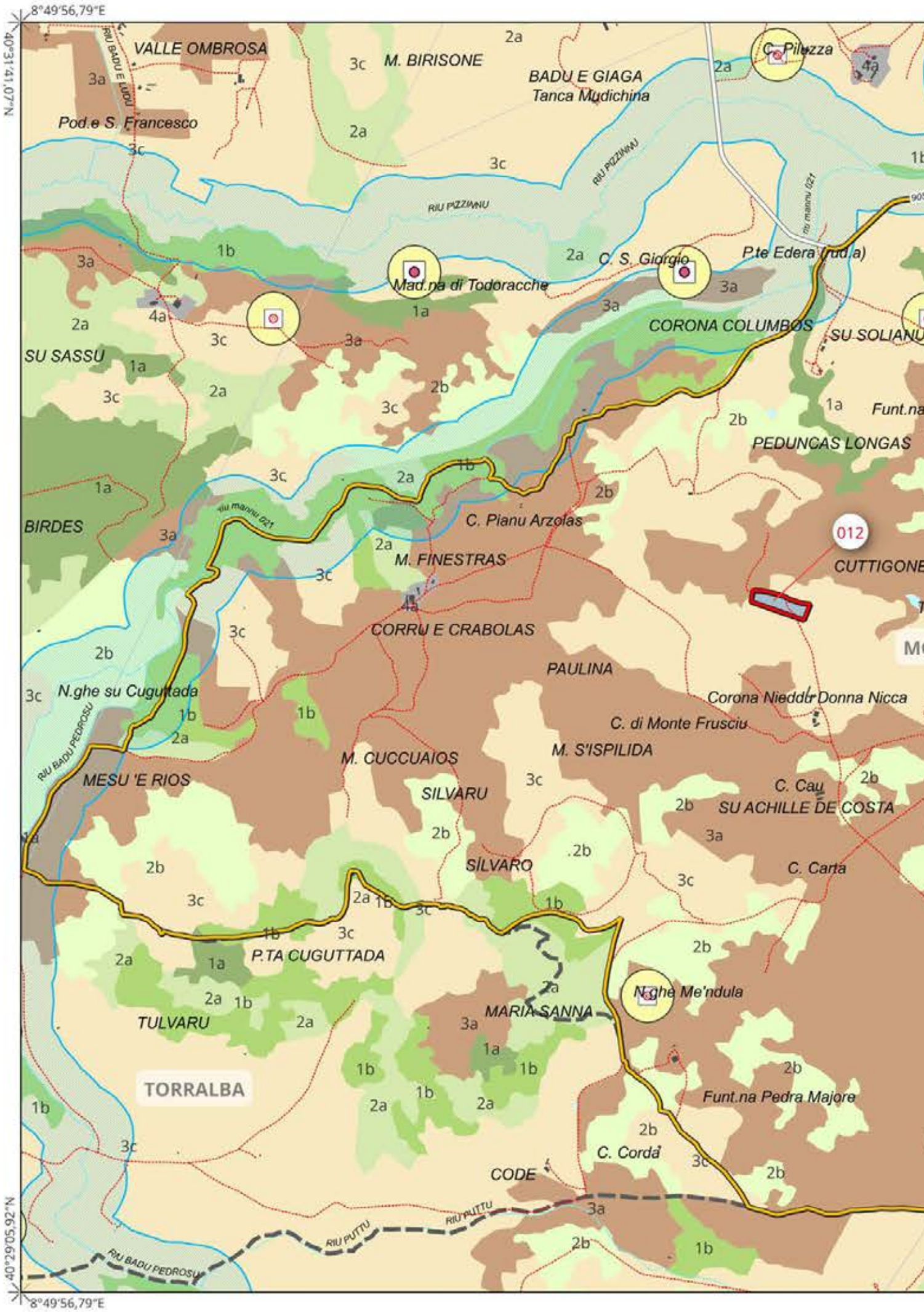
Pericolo_Geomorfologico_PAI_PGRA_Rev_Dic_22
Hg2
Hg3

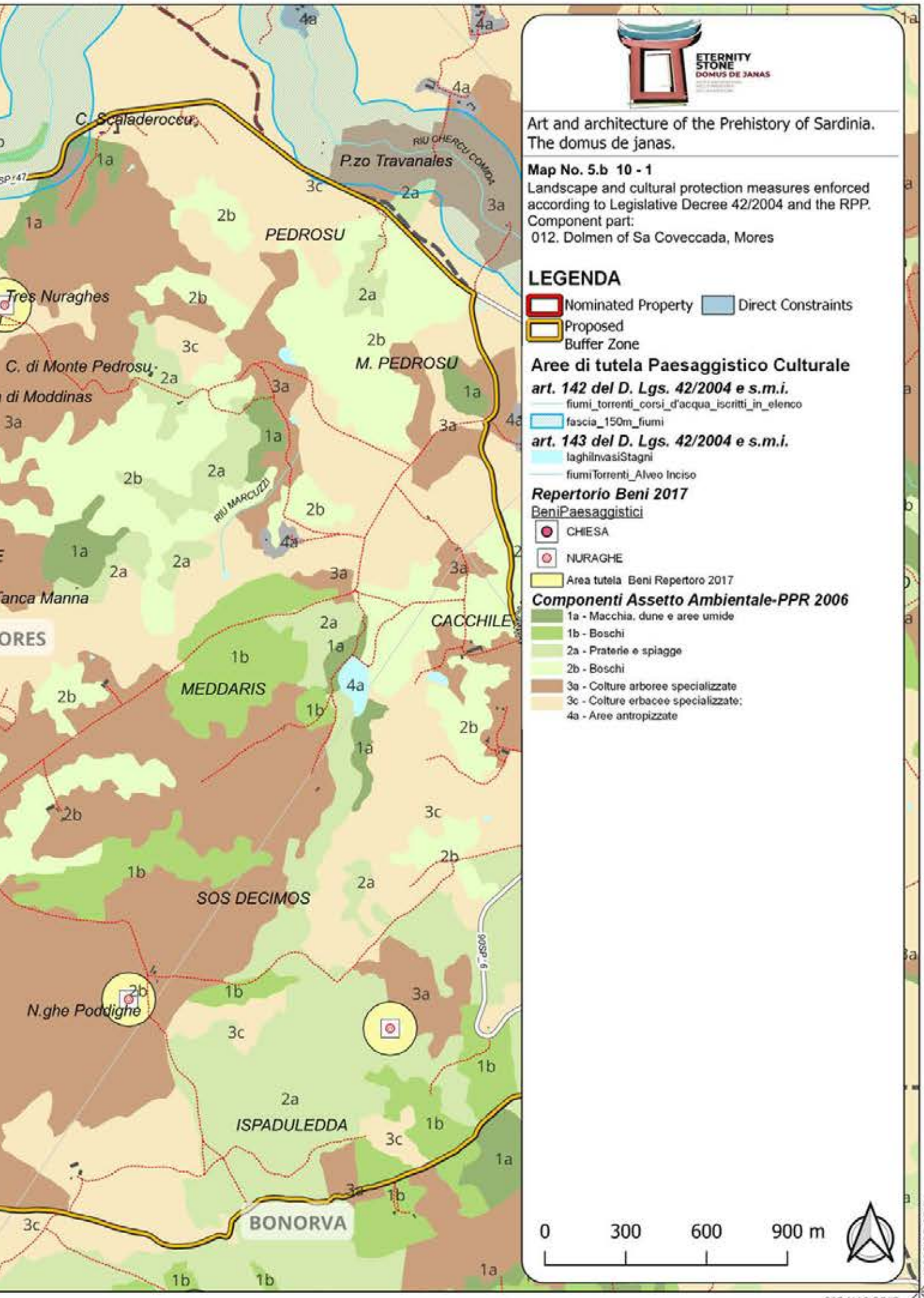
Aree di tutela Ambientale

Aree_presenza_di_specie_animali_tutelate da_convenzioni_internazionali
Monumenti_naturali_istituiti_lr_31_89
Oasi_permanenti_di_protezione_faunistica e_di_cattura_istituite
Zps_dic_2021

Aree Recupero Ambientale - PPR2006

scavi


8°49'56,79"E
40°31'41,07"N
40°29'50,92"N
8°49'56,79"E
VALLE OMBROSA
M. BIRISONE
BADU E GIAGA
Tanca Mudichina
C. Pilezza
Pod.e S. Francesco
RIU BADU E LUDU
RIU PIZZINNU
C. S. Giorgio
P.te Edera (rud.a)
Mad.na di Todoracche
CORONA COLUMBOS
SU SOLIANU
SU SASSU
PEDUNCAS LONGAS
Funt.na
C. Pianu Arzolas
BIRDES
M. FINESTRAS
CUTTIGONE
CORRU E CRABOLAS
PAULINA
N.ghe su Cugutada
Corona Nieddr Donna Nicca
C. di Monte Frusciu
M. S'ISPILIDA
M. CUCCUAIOS
MESU 'E RIOS
SILVARU
C. Cau
SU ACHILLE DE COSTA
SILVARO
C. Carta
P.TA CUGUTTADA
N.ghe Me'ndula
MARIA SANNA
TULVARU
TORRALBA
Funt.na Pedra Majore
C. Corda
CODE
RIU PUTTU
RIU BADU PEDROSU



ETERNITY STONE
DOMUS DE JANAS

Art and architecture of the Prehistory of Sardinia.
The domus de janas.

Map No. 5.b 10 - 1

Landscape and cultural protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
012. Dolmen of Sa Coveccada, Mores

LEGENDA

Nominated Property
Direct Constraints
Proposed Buffer Zone

Aree di tutela Paesaggistico Culturale

art. 142 del D. Lgs. 42/2004 e s.m.i.

fiumi_torrenti_corsi_d'acqua_iscritti_in_elenco
fascia_150m_fiumi

art. 143 del D. Lgs. 42/2004 e s.m.i.

laghiInvasiStagni
fiumiTorrenti_Alveo Inciso

Repertorio Beni 2017

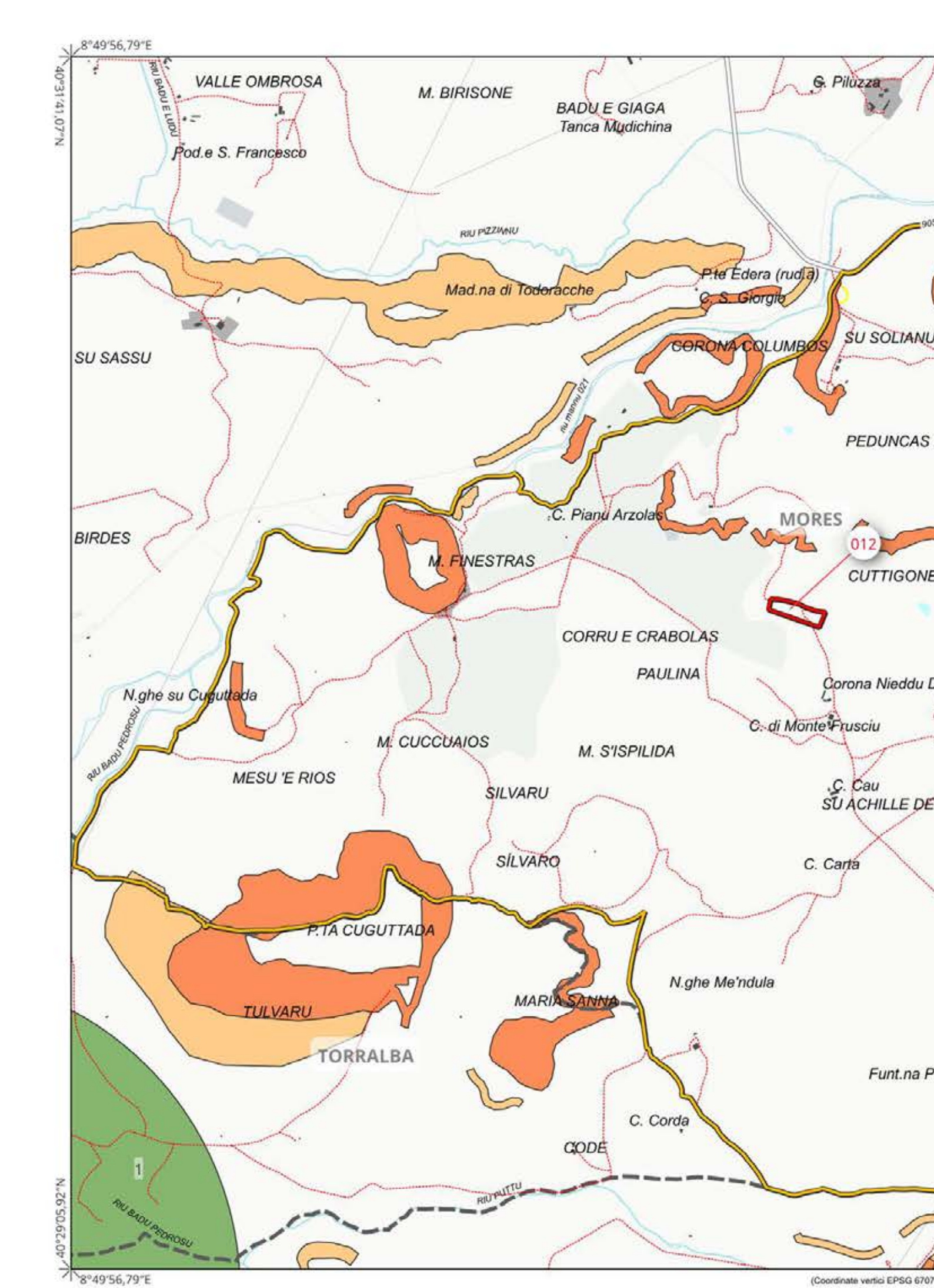
BeniPaesaggistici
CHIESA
NURAGHE
Area tutela Beni Repertoro 2017

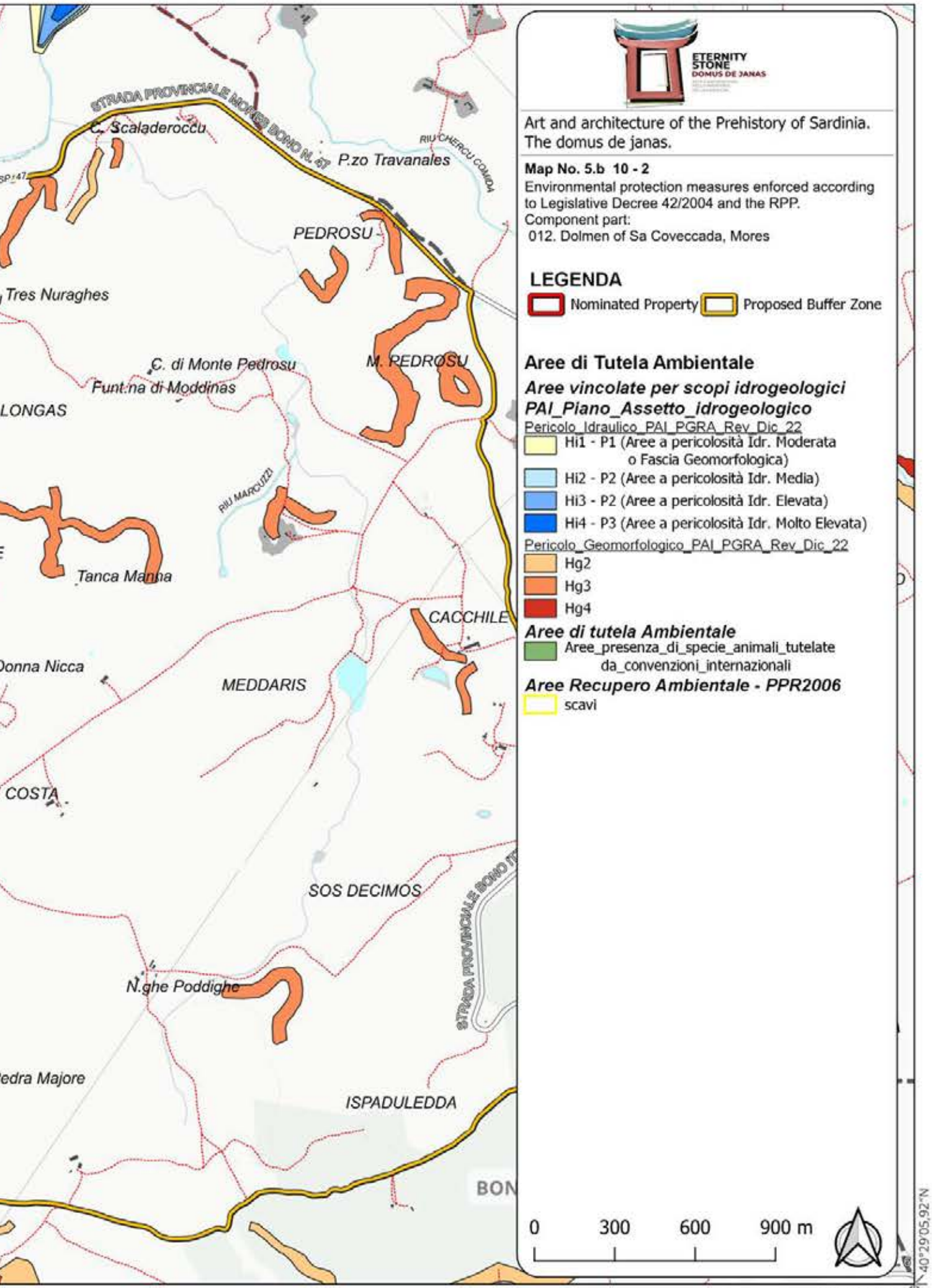
Componenti Assetto Ambientale-PPR 2006

1a - Macchia, dune e aree umide
1b - Boschi
2a - Praterie e spiagge
2b - Boschi
3a - Colture arboree specializzate
3c - Colture erbacee specializzate;
4a - Aree antropizzate

0 300 600 900 m

40°29'05,92"N
8°54'46,35"E


8°49'56,79"E
40°31'41,07"N
VALLE OMBROSA
M. BIRISONE
BADU E GIAGA
Tanca Mudichina
C. Piluzza
Pod.e S. Francesco
RIU BADU E LUDU
RIU PIZZINU
Mad.na di Todoracche
P.te Edera (rud.a)
C. S. Giorgio
SU SASSU
CORONA COLUMBOS
SU SOLIANU
PEDUNCAS
C. Pianu Arzolas
MORES
012
BIRDES
M. FINESTRAS
CUTTIGONE
CORRU E CRABOLAS
PAULINA
Corona Nieddu
N.ghe su Cuguttada
C. di Monte Frusciu
RIU BADU PEDROSU
M. CUCCUAIOS
M. S'ISPILIDA
MESU 'E RIOS
SILVARU
C. Cau
SU ACHILLE DE
SÍLVARO
C. Carta
P.TA CUGUTTADA
N.ghe Me'ndula
MARIA SANNA
TULVARU
TORRALBA
Funt.na P
C. Corda
CODE
1
RIU BADU PEDROSU
RIU PLITTU
40°29'05,92"N
8°49'56,79"E
(Coordinate vertici EPSG 6707



ETERNITY STONE
DOMUS DE JANAS

Art and architecture of the Prehistory of Sardinia.
The domus de janas.

Map No. 5.b 10 - 2

Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
012. Dolmen of Sa Coveccada, Mores

LEGENDA

Nominated Property
Proposed Buffer Zone

Aree di Tutela Ambientale

Aree vincolate per scopi idrogeologici
PAI_Piano_Assetto_idrogeologico

Pericolo_Idraulico_PAI_PGRA_Rev_Dic_22
- Hi1 - P1 (Aree a pericolosità Idr. Moderata o Fascia Geomorfologica)
- Hi2 - P2 (Aree a pericolosità Idr. Media)
- Hi3 - P2 (Aree a pericolosità Idr. Elevata)
- Hi4 - P3 (Aree a pericolosità Idr. Molto Elevata)

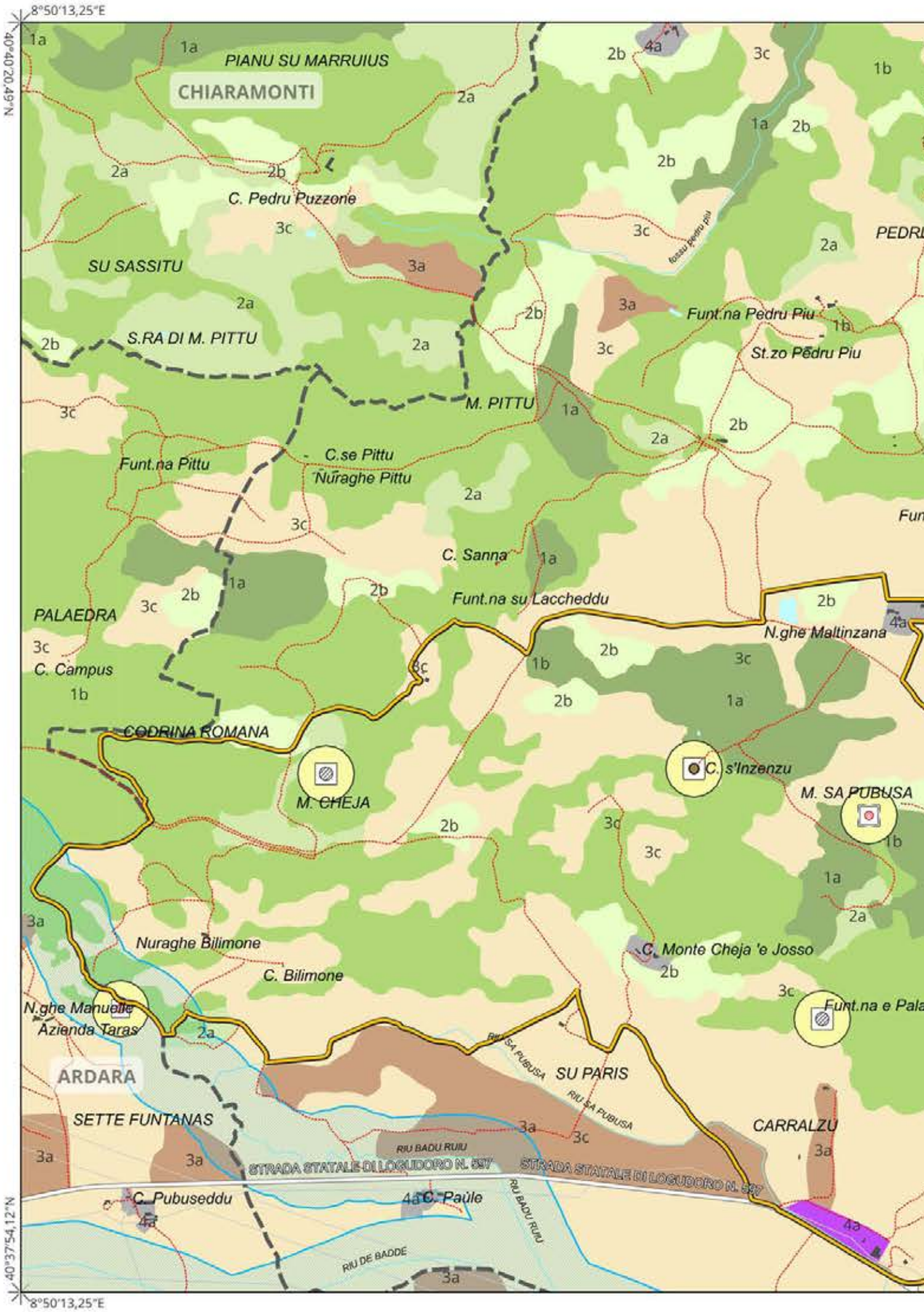
Pericolo_Geomorfologico_PAI_PGRA_Rev_Dic_22
- Hg2
- Hg3
- Hg4

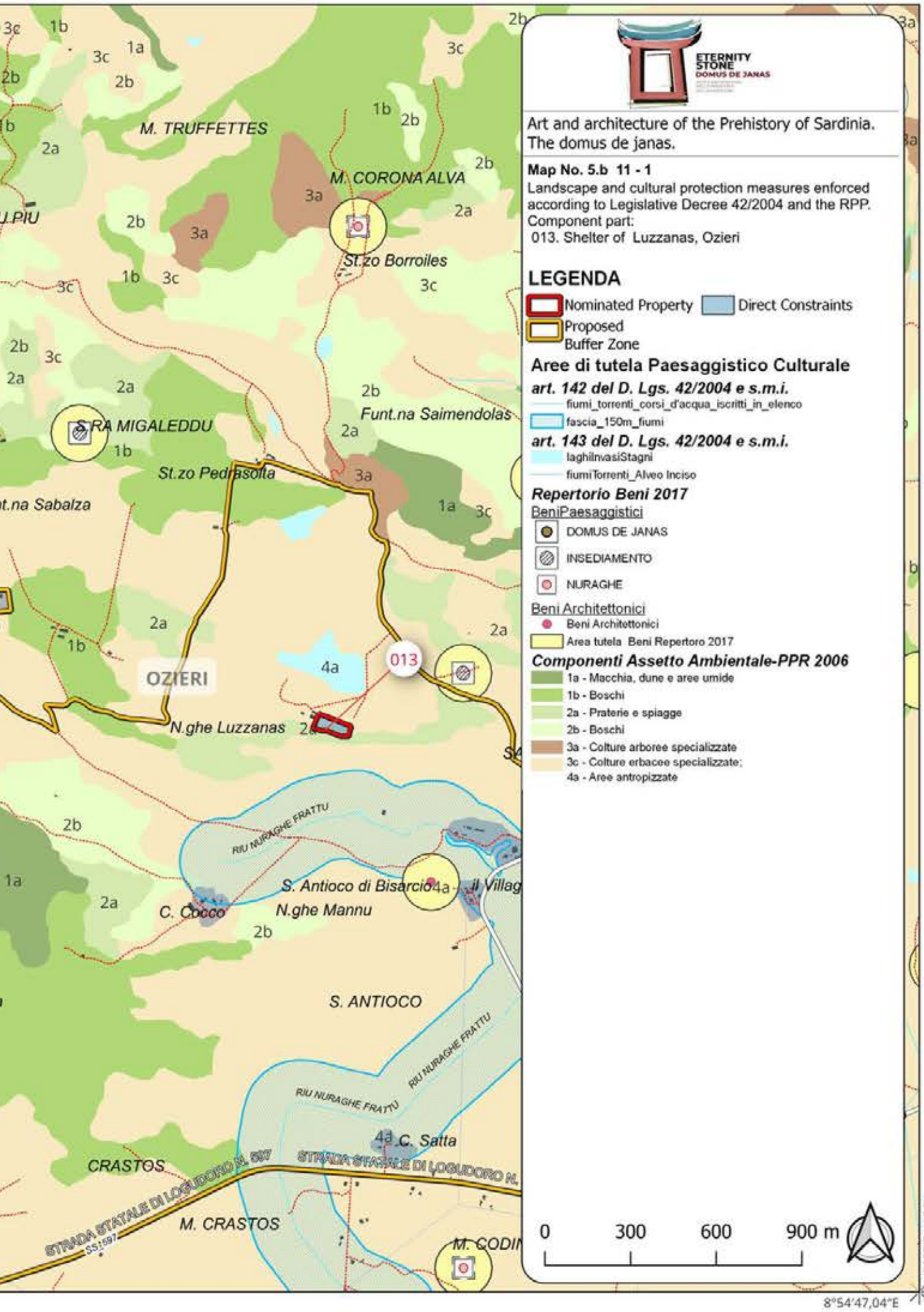
Aree di tutela Ambientale
- Aree_presenza_di_specie_animali_tutelate da_convenzioni_internazionali

Aree Recupero Ambientale - PPR2006
- scavi

0 300 600 900 m

40°29'05,92"N
8°54'46,35"E


8°50'13,25"E
40°40'20,49"N
40°37'54,12"N
8°50'13,25"E
PIANU SU MARRUIUS
CHIARAMONTI
C. Pedru Puzzone
SU SASSITU
S.RA DI M. PITTU
M. PITTU
Funt.na Pedru Piu
St.zo Pedru Piu
fossu pedru piu
C.se Pittu
Nuraghe Pittu
Funt.na Pittu
C. Sanna
Funt.na su Laccheddu
PALAEDRA
C. Campus
N.ghe Maltinzana
CODRINA ROMANA
M. CHEJA
C. s'Inzenzu
M. SA PUBUSA
Nuraghe Bilimone
C. Bilimone
C. Monte Cheja 'e Josso
N.ghe Manuelle
Azienda Taras
Funt.na e Pala
ARDARA
SETTE FUNTANAS
SU PARIS
CARRALZU
RIU SA PUBUSA
RIU BADU RUIU
STRADA STATALE DI LOGUDORO N. 597
C. Pubuseddu
C. Paule
RIU DE BADDE



ETERNITY STONE
DOMUS DE JANAS

Art and architecture of the Prehistory of Sardinia.
The domus de janas.

Map No. 5.b 11 - 1

Landscape and cultural protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
013. Shelter of Luzzanas, Ozieri

LEGENDA

Nominated Property
Direct Constraints
Proposed Buffer Zone

Aree di tutela Paesaggistico Culturale

art. 142 del D. Lgs. 42/2004 e s.m.i.

fiumi_torrenti_corsi_d'acqua_iscritti_in_elenco
fascia_150m_fiumi

art. 143 del D. Lgs. 42/2004 e s.m.i.

laghiInvasiStagni
fiumiTorrenti_Alveo Inciso

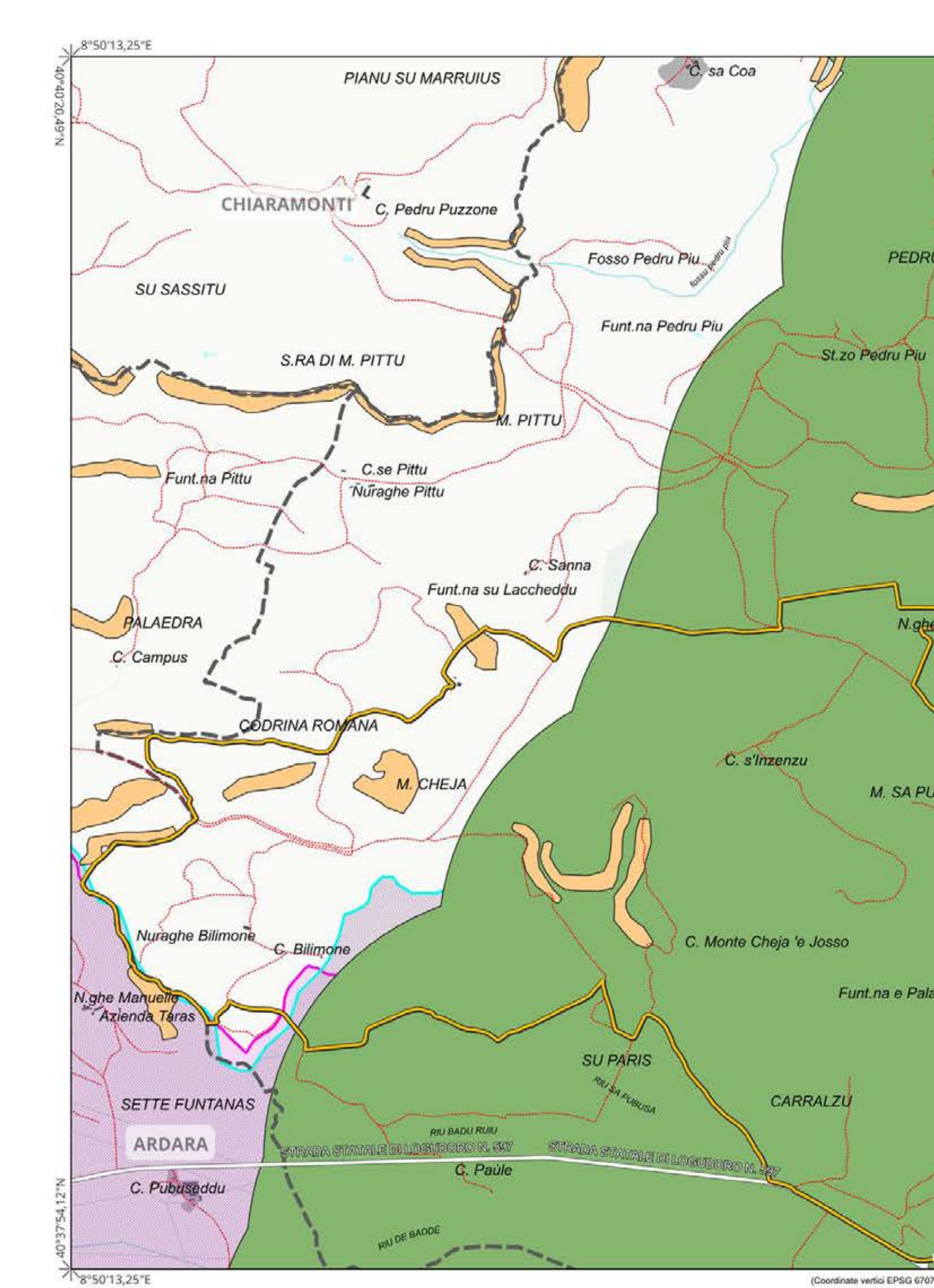
Repertorio Beni 2017

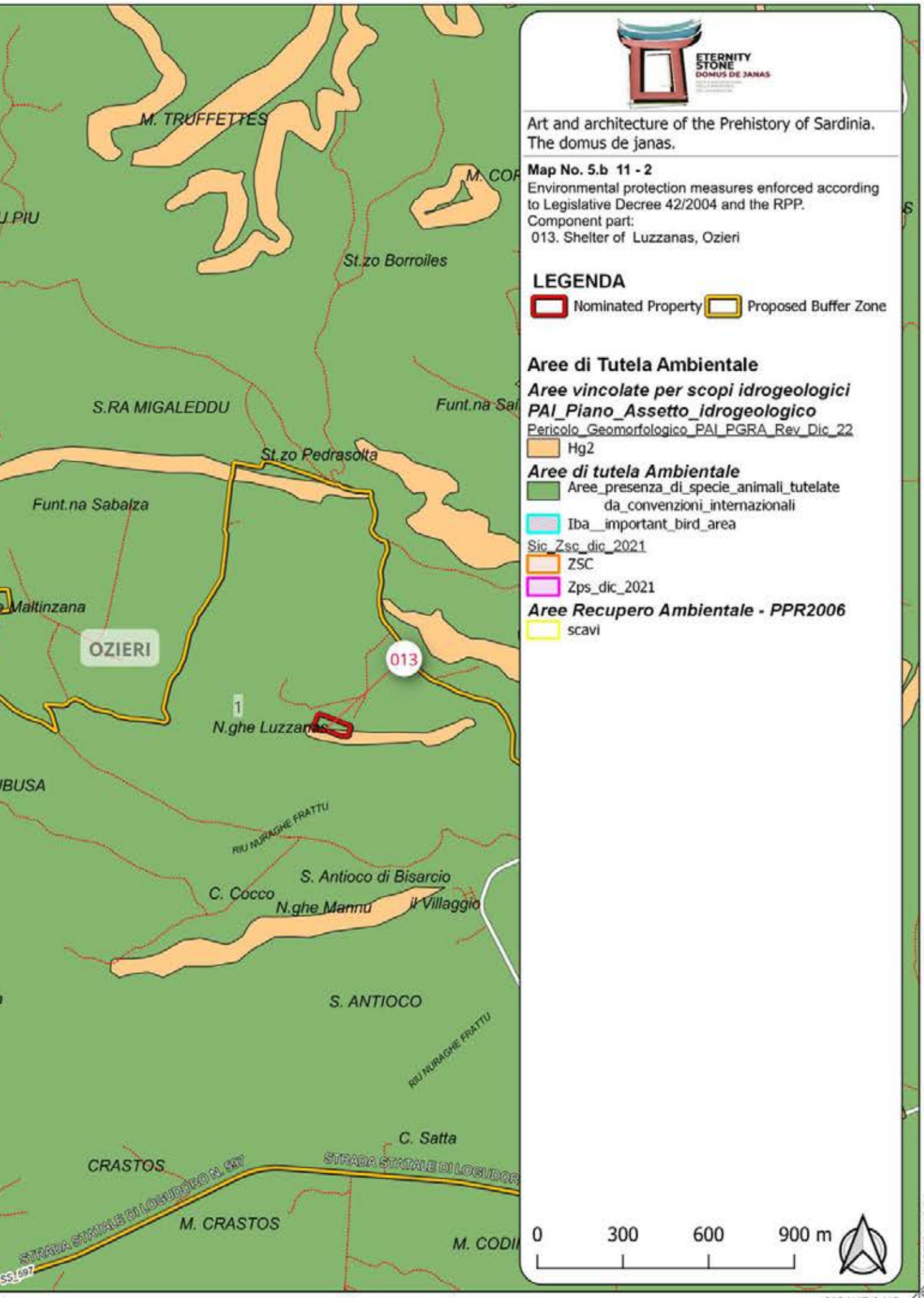
BeniPaesaggistici
DOMUS DE JANAS
INSEDIAMENTO
NURAGHE

Beni Architettonici
Beni Architettonici
Area tutela Beni Repertoro 2017

Componenti Assetto Ambientale-PPR 2006

1a - Macchia, dune e aree umide
1b - Boschi
2a - Praterie e spiagge
2b - Boschi
3a - Colture arboree specializzate
3c - Colture erbacee specializzate;
4a - Aree antropizzate


8°50'13,25"E
40°40'20,49"N
PIANU SU MARRUIUS
C. sa Coa
CHIARAMONTI
C. Pedru Puzzone
Fosso Pedru Piu
fossu pedru piu
SU SASSITU
Funt.na Pedru Piu
S.RA DI M. PITTU
St.zo Pedru Piu
M. PITTU
C.se Pittu
Funt.na Pittu
Nuraghe Pittu
C. Sanna
Funt.na su Laccheddu
PALAEDRA
C. Campus
CODRINA ROMANA
C. s'Inzenzu
M. CHEJA
Nuraghe Bilimone
C. Bilimone
C. Monte Cheja 'e Josso
N.ghe Manuelle
Azienda Taras
SU PARIS
RIU SA PUBUSA
SETTE FUNTANAS
CARRALZU
ARDARA
RIU BADU RUIU
STRADA STATALE DI LOGUDORO N. 597
C. Paùle
C. Pubuseddu
RIU DE BADDE
40°37'54,12"N
8°50'13,25"E
(Coordinate vertici EPSG 6707



ETERNITY STONE
DOMUS DE JANAS

Art and architecture of the Prehistory of Sardinia.
The domus de janas.

Map No. 5.b 11 - 2
Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
013. Shelter of Luzzanas, Ozieri

LEGENDA

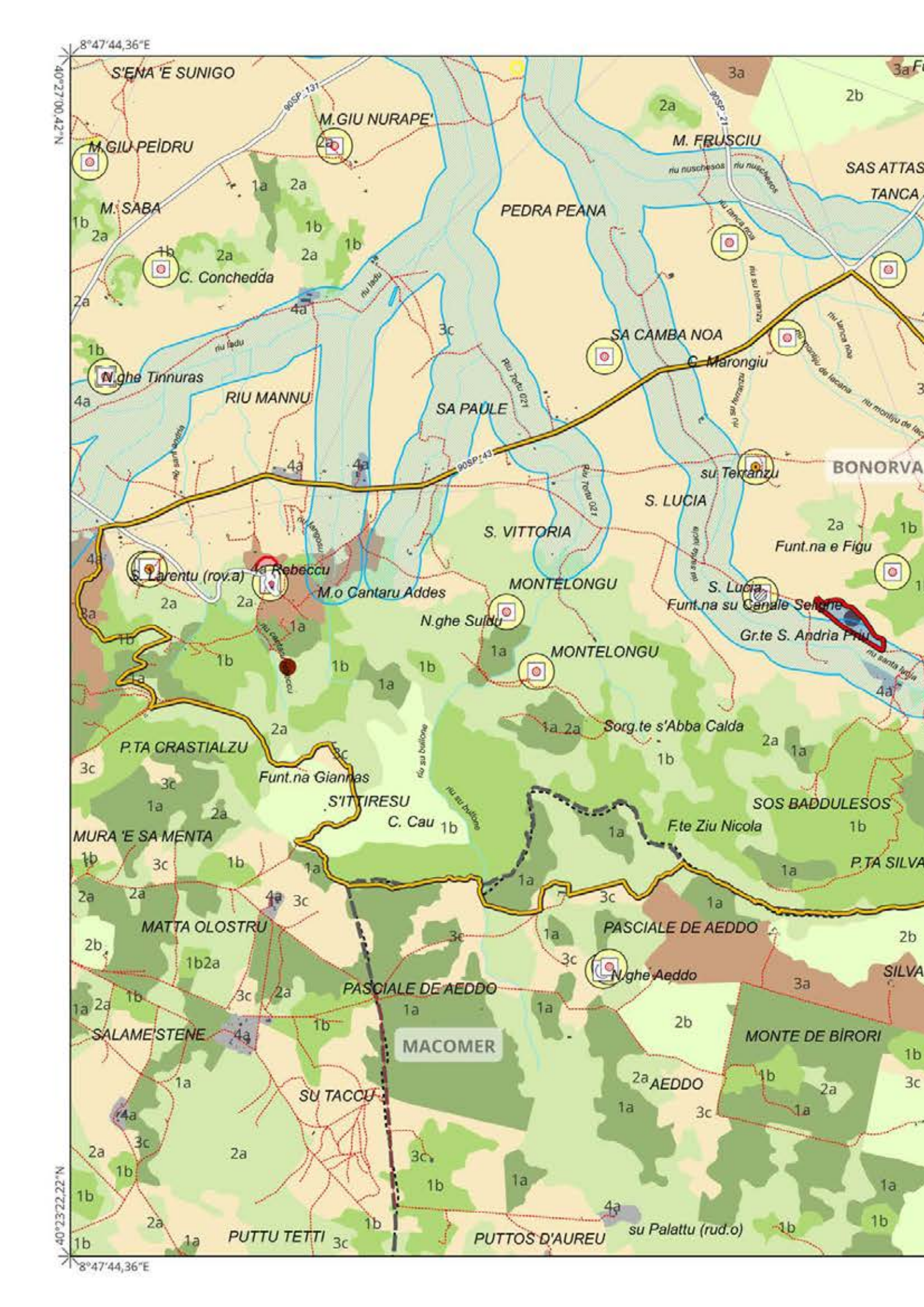
Nominated Property
Proposed Buffer Zone

Aree di Tutela Ambientale

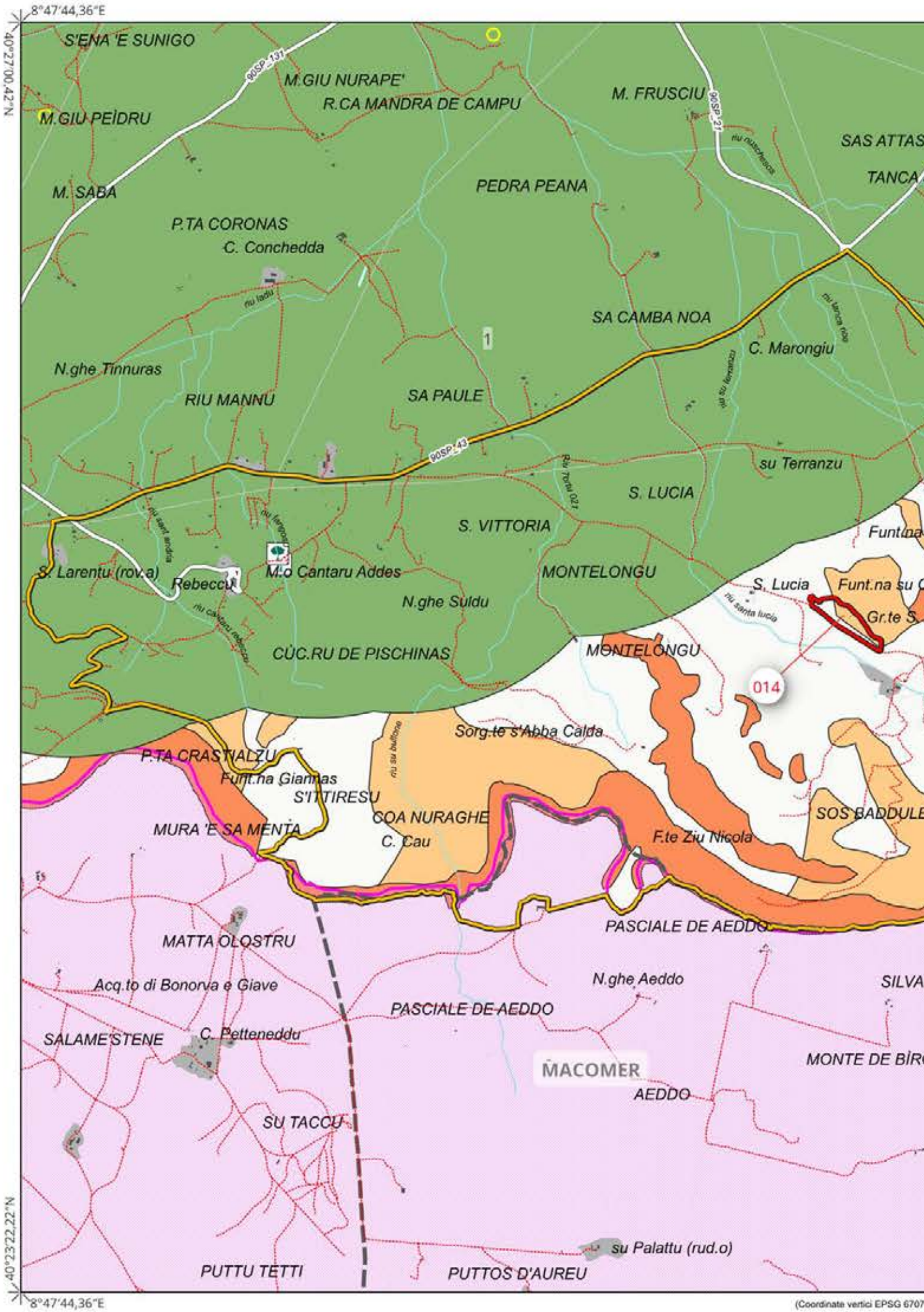
Aree vincolate per scopi idrogeologici
PAI_Piano_Assetto_idrogeologico
Pericolo_Geomorfologico_PAI_PGRA_Rev_Dic_22
Hg2

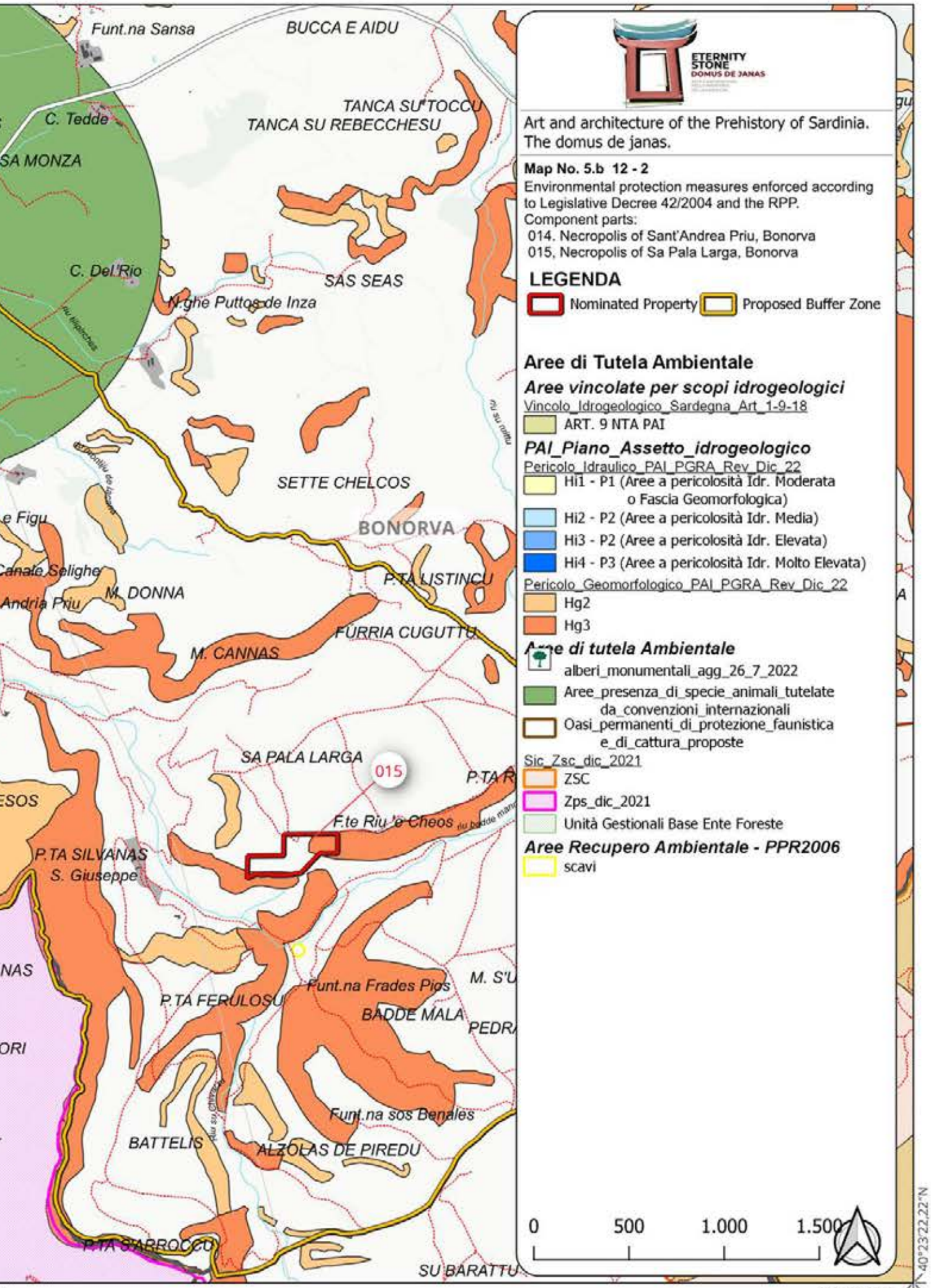
Aree di tutela Ambientale
Aree_presenza_di_specie_animali_tutelate da_convenzioni_internazionali
Iba__important_bird_area
Sic_Zsc_dic_2021
ZSC
Zps_dic_2021

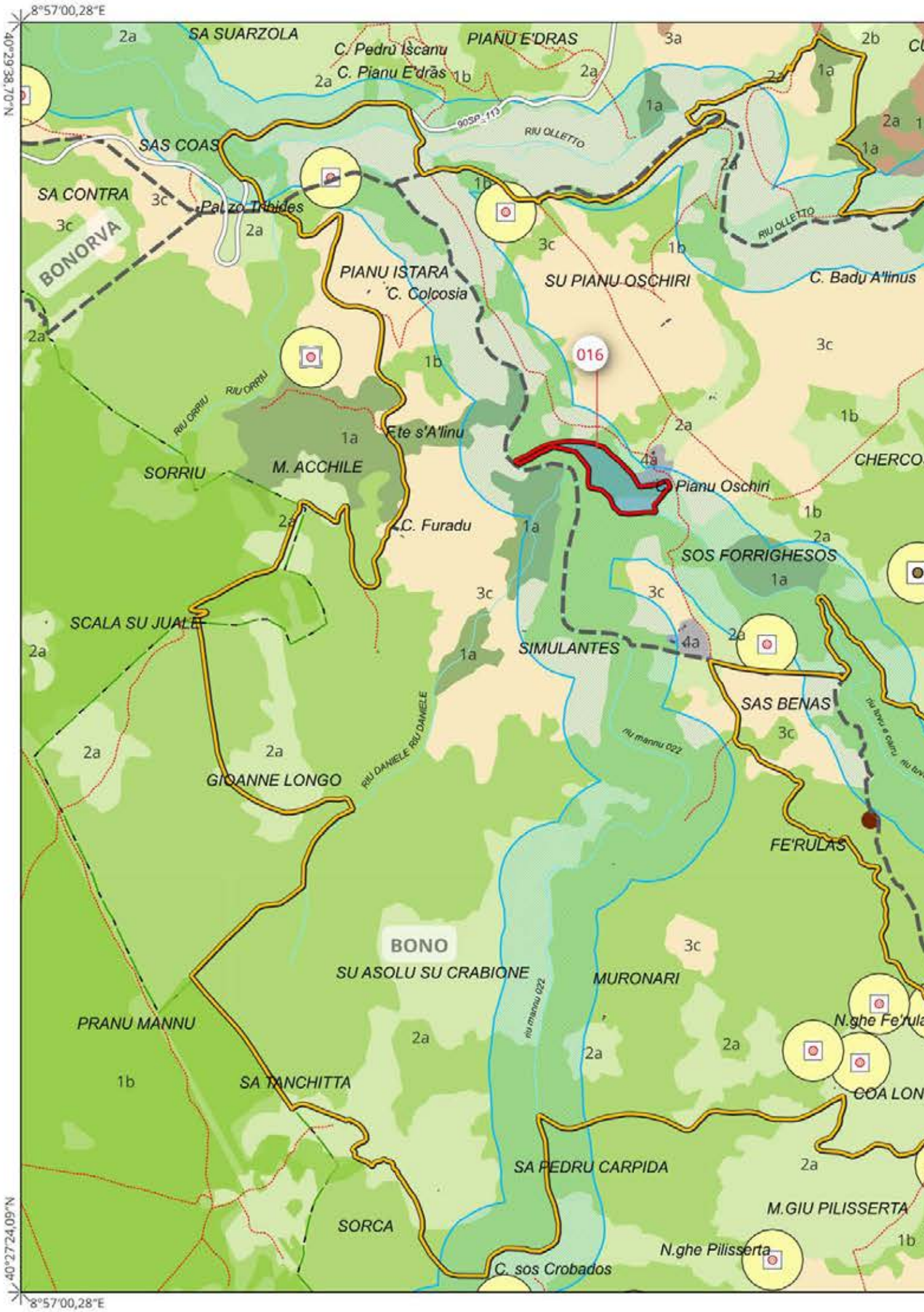
Aree Recupero Ambientale - PPR2006
scavi


8°47'44,36"E
40°27'00,42"N
40°23'22,22"N
8°47'44,36"E
S'ENA 'E SUNIGO
M.GIU NURAPE'
M.GIU PEÌDRU
M. SABA
C. Conchedda
PEDRA PEANA
M. FRUSCIU
SAS ATTAS
TANCA
SA CAMBA NOA
C. Marongiu
N.ghe Tinnuras
RIU MANNU
SA PAULE
su Terranzu
BONORVA
S. LUCIA
S. VITTORIA
Funt.na e Figu
S. Larentu (rov.a)
M.o Rebeccu
M.o Cantaru Addes
MONTELONGU
N.ghe Suldu
S. Lucia
Funt.na su Canale Serone
Gr.te S. Andria Priu
MONTELONGU
Sorg.te s'Abba Calda
P.TA CRASTIALZU
Funt.na Giannas
S'ITTIRESU
C. Cau
SOS BADDULESOS
F.te Ziu Nicola
MURA 'E SA MENTA
P.TA SILVA
MATTA OLOSTRU
PASCIALE DE AEDDO
N.ghe Aeddo
SILVA
PASCIALE DE AEDDO
MACOMER
SALAME STENE
MONTE DE BÌRORI
AEDDO
SU TACCU
PUTTU TETTI
PUTTOS D'AUREU
su Palattu (rud.o)
90SP_131
90SP_21
90SP_43
Riu Torru 021
riu ladu
riu nuschesos
riu tanca noa
riu su terranzu
riu lanca noa
riu monliju de lacana
riu sant andria
riu lampasu
riu su bullone
riu santa lucia

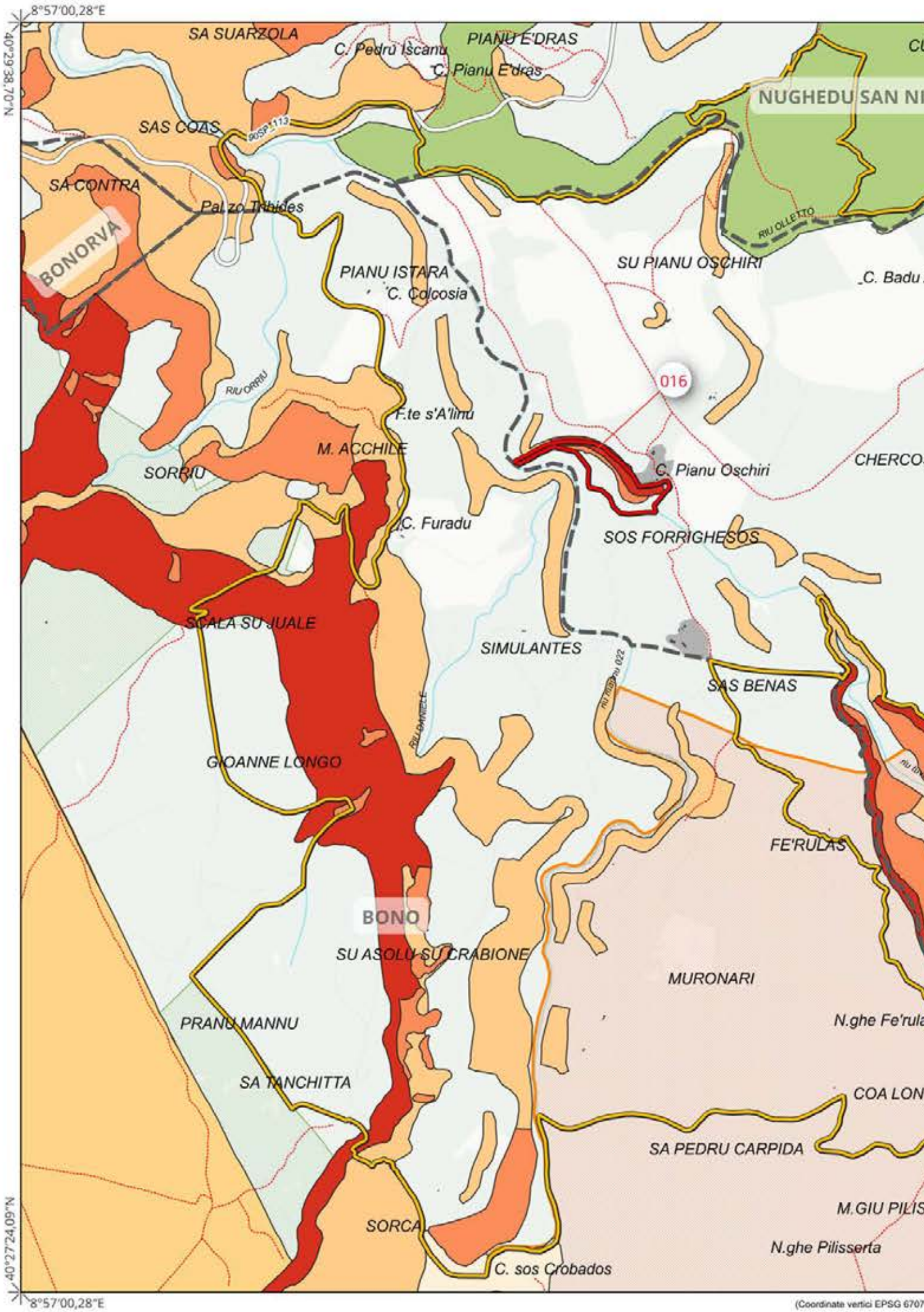
ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 5.b 12 - 1
Landscape and cultural protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component parts:
014. Necropolis of Sant'Andrea Priu, Bonorva
015, Necropolis of Sa Pala Larga, Bonorva
LEGENDA
Nominated Property
Direct Constraints
Proposed Buffer Zone
Aree di tutela Paesaggistico Culturale
art. 142 del D. Lgs. 42/2004 e s.m.i.
fiumi_torrenti_corsi_d'acqua_iscritti_in_elenco
fascia_150m_fiumi
art. 143 del D. Lgs. 42/2004 e s.m.i.
grotteCaverne
areeGestSpecialeEnteForeste
laghiInvasiStagni
fiumiTorrenti_Alveo Inciso
CENTRI_ANTICA_PRIMA_FORMAZ_rev
Repertorio Beni 2017
BeniPaesaggistici
CHIESA
DOLMEN
INSEDIAMENTO
NECROPOLI
NURAGHE
Area tutela Beni Repertoro 2017
Componenti Assetto Ambientale-PPR 2006
1a - Macchia, dune e aree umide
1b - Boschi
2a - Praterie e spiagge
2b - Boschi
3a - Colture arboree specializzate
3c - Colture erbacee specializzate;
4a - Aree antropizzate
0
500
1.000
1.500
BUCCA E AIDU
TANCA SU TOCCU
TANCA SU REBECCHESU
C. Tedde
SA MONZA
C. Del Rio
SAS SEAS
SETTE CHELCOS
M. DONNA
M. CANNAS
FÚRRIA CUGUTTU
SA PALA LARGA
P.TA RIU 'E CHEOS
F.te Riu 'e Cheos
S. Giuseppe
Funt.na Frades Pios
BADDE MALA
P.TA FERULOSU
Funt.na sos Benales
BATTELIS
ALZOLAS DE PIREDU
P.TA S'ARROCCU
SU BARATTU
40°23'22.22"N
8°54'30,97"E

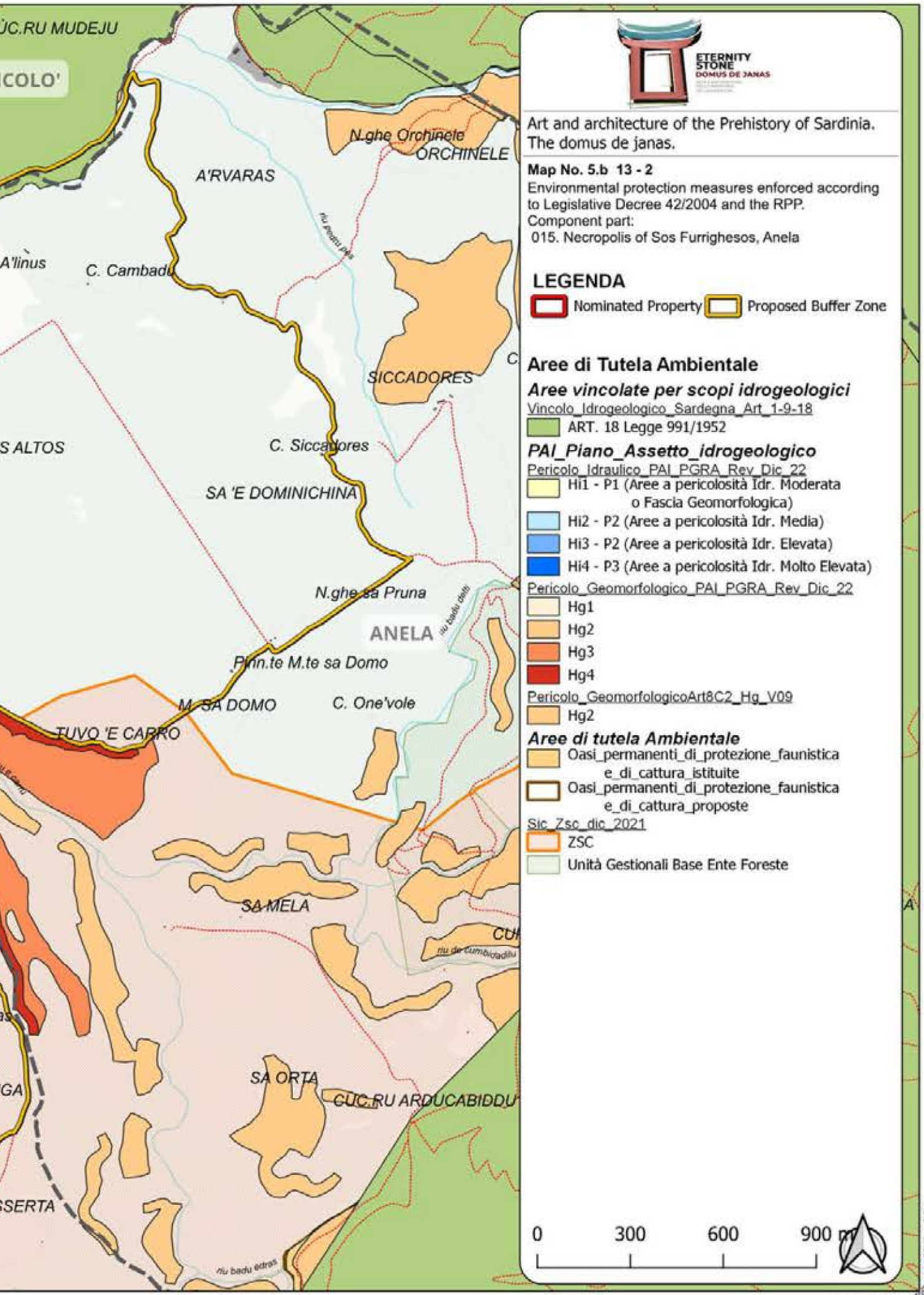

8°47'44,36"E
40°27'00,42"N
S'ENA 'E SUNIGO
90SP_131
M.GIU NURAPE'
R.CA MANDRA DE CAMPU
M.GIU PEÌDRU
M. FRUSCIU
90SP_21
riu nuscheresa
SAS ATTAS
TANCA
M. SABA
PEDRA PEANA
P.TA CORONAS
C. Conchedda
riu ladu
SA CAMBA NOA
riu lanca rosa
C. Marongiu
1
N.ghe Tinnuras
RIU MANNU
SA PAULE
riu su terranzu
90SP_43
su Terranzu
Riu Torbu 021
S. LUCIA
riu sant andria
riu largos
S. VITTORIA
Funt.na
S. Larentu (rov.a)
Rebeccu
M.o Cantaru Addes
MONTELONGU
S. Lucia
Funt.na su C
N.ghe Suldu
riu santa lucia
Gr.te S.
riu cantaru rebeccu
CÙC.RU DE PISCHINAS
MONTELONGU
014
Sorg.te s'Abba Calda
riu su bullone
P.TA CRASTIALZU
Funt.ha Giannas
S'ITTIRESU
SOS BADDULE
COA NURAGHE
C. Cau
MURA 'E SA MENTA
F.te Ziu Nicola
PASCIALE DE AEDDO
MATTA OLOSTRU
N.ghe Aeddo
SILVA
Acq.to di Bonorva e Giave
PASCIALE DE AEDDO
SALAME STENE
C. Petteneddu
MACOMER
MONTE DE BÌR
AEDDO
SU TACCU
40°23'22,22"N
su Palattu (rud.o)
PUTTU TETTI
PUTTOS D'AUREU
8°47'44,36"E
(Coordinate vertici EPSG 6707


Funt.na Sansa
BUCCA E AIDU
TANCA SU TOCCU
TANCA SU REBECCHESU
C. Tedde
SA MONZA
C. Del'Rio
SAS SEAS
N.ghe Puttos de Inza
SETTE CHELCOS
BONORVA
P.TA LISTINCU
M. DONNA
FURRIA CUGUTTU
M. CANNAS
SA PALA LARGA
015
F.te Riu 'e Cheos
P.TA SILVANAS
S. Giuseppe
Funt.na Frades Pios
P.TA FERULOSU
BADDE MALA
Funt.na sos Benales
BATTELIS
ALZOLAS DE PIREDU
SU BARATTU
ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 5.b 12 - 2
Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component parts:
014. Necropolis of Sant'Andrea Priu, Bonorva
015, Necropolis of Sa Pala Larga, Bonorva
LEGENDA
Nominated Property
Proposed Buffer Zone
Aree di Tutela Ambientale
Aree vincolate per scopi idrogeologici
Vincolo_Idrogeologico_Sardegna_Art_1-9-18
ART. 9 NTA PAI
PAI_Piano_Assetto_idrogeologico
Pericolo_Idraulico_PAI_PGRA_Rev_Dic_22
Hi1 - P1 (Aree a pericolosità Idr. Moderata o Fascia Geomorfologica)
Hi2 - P2 (Aree a pericolosità Idr. Media)
Hi3 - P2 (Aree a pericolosità Idr. Elevata)
Hi4 - P3 (Aree a pericolosità Idr. Molto Elevata)
Pericolo_Geomorfologico_PAI_PGRA_Rev_Dic_22
Hg2
Hg3
Aree di tutela Ambientale
alberi_monumentali_agg_26_7_2022
Aree_presenza_di_specie_animali_tutelate da_convenzioni_internazionali
Oasi_permanenti_di_protezione_faunistica e_di_cattura_proposte
Sic_Zsc_dic_2021
ZSC
Zps_dic_2021
Unità Gestionali Base Ente Foreste
Aree Recupero Ambientale - PPR2006
scavi
0
500
1.000
1.500
40°23'22.22"N
8°54'30,97"E


8°57'00,28"E
40°29'38,70"N
40°27'24,09"N
8°57'00,28"E
SA SUARZOLA
C. Pedrù Iscanu
C. Pianu E'drās
PIANU E'DRAS
90SP 113
RIU OLLETTO
SAS COAS
SA CONTRA
Palzo Tribides
BONORVA
PIANU ISTARA
C. Colcosia
SU PIANU OSCHIRI
C. Badu A'linus
016
RIU ORRIU
Ete s'A'linu
SORRIU
M. ACCHILE
C. Pianu Oschiri
C. Furadu
SOS FORRIGHESOS
SCALA SU JUALE
SIMULANTES
SAS BENAS
RIU DANIELE
GIOANNE LONGO
riu mannu 022
FE'RULAS
BONO
SU ASOLU SU CRABIONE
MURONARI
PRANU MANNU
SA TANCHITTA
N.ghe Fe'rula
COA LON
SA PEDRU CARPIDA
SORCA
M.GIU PILISSERTA
N.ghe Pilisserta
C. sos Crobados

ÙC.RU MUDEJU
N.ghe Orchinele
ORCHINELE
A'RVARAS
C. Cambadu
SICCADORES
C. Siccadores
SA 'E DOMINICHINA
N.ghe sa Pruna
Pinn.te M.te sa Domo
M. SA DOMO
C. One'vole
TUVO 'E CARRO
ANELA
SA MELA
SA ORTA
CÙC.RU ARDUCABIDDU
riu pala mela
riu piedru pes
riu badu dedi
riu de cumbidadiu
riu badu edias
ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 5.b 13 - 1
Landscape and cultural protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
016. Necropolis ofi Sos Furrighesos, Anela
LEGENDA
Nominated Property
Direct Constraints
Proposed Buffer Zone
Aree di tutela Paesaggistico Culturale
art. 142 del D. Lgs. 42/2004 e s.m.i.
fiumi_torrenti_corsi_d'acqua_iscritti_in_elenco
fascia_150m_fiumi
Boschi_D_Lgs_386_2003
art. 143 del D. Lgs. 42/2004 e s.m.i.
grotteCaverne
areeGestSpecialeEnteForeste
areeQuotaSuperiore900m
laghiInvasiStagni
fiumiTorrenti_Alveo Inciso
Repertorio Beni 2017
BeniPaesaggistici
DOMUS DE JANAS
INSEDIAMENTO
INSEDIAMENTO SPARSO
NURAGHE
Area tutela Beni Repertoro 2017
Componenti Assetto Ambientale-PPR 2006
1a - Macchia, dune e aree umide
1b - Boschi
2a - Praterie e spiagge
2b - Boschi
3a - Colture arboree specializzate
3c - Colture erbacee specializzate;
4a - Aree antropizzate
0
300
600
900
40°27'24,09"N
9°01'11,65"E


8°57'00,28"E
40°29'38,70"N
SA SUARZOLA
C. Pedru Iscanu
PIANU E'DRAS
C. Pianu E'dras
NUGHEDU SAN NI
SAS COAS
90SP113
SA CONTRA
Palazzo Thiides
BONORVA
RIU OLLETTO
PIANU ISTARA
C. Colcosia
SU PIANU OSCHIRI
C. Badu
016
RIU ORRIU
F.te s'A'linu
M. ACCHILE
SORRIU
C. Pianu Oschiri
CHERCO
C. Furadu
SOS FORRIGHESOS
SCALA SU JUALE
SIMULANTES
SAS BENAS
RIU BANNECE
GIOANNE LONGO
FE'RULAS
BONO
SU ASOLU SU CRABIONE
MURONARI
PRANU MANNU
N.ghe Fe'rula
SA TANCHITTA
COA LON
SA PEDRU CARPIDA
M.GIU PILIS
SORCA
N.ghe Pilisserta
C. sos Crobados
40°27'24,09"N
8°57'00,28"E
(Coordinate vertici EPSG 6707



ETERNITY STONE
DOMUS DE JANAS

Art and architecture of the Prehistory of Sardinia.
The domus de janas.

Map No. 5.b 13 - 2

Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
015. Necropolis of Sos Furrighesos, Anela

LEGENDA

Nominated Property
Proposed Buffer Zone

Aree di Tutela Ambientale

Aree vincolate per scopi idrogeologici

Vincolo_Idrogeologico_Sardegna_Art_1-9-18
- ART. 18 Legge 991/1952

PAI_Piano_Assetto_idrogeologico

Pericolo_Idraulico_PAI_PGRA_Rev_Dic_22
- Hi1 - P1 (Aree a pericolosità Idr. Moderata o Fascia Geomorfologica)
- Hi2 - P2 (Aree a pericolosità Idr. Media)
- Hi3 - P2 (Aree a pericolosità Idr. Elevata)
- Hi4 - P3 (Aree a pericolosità Idr. Molto Elevata)

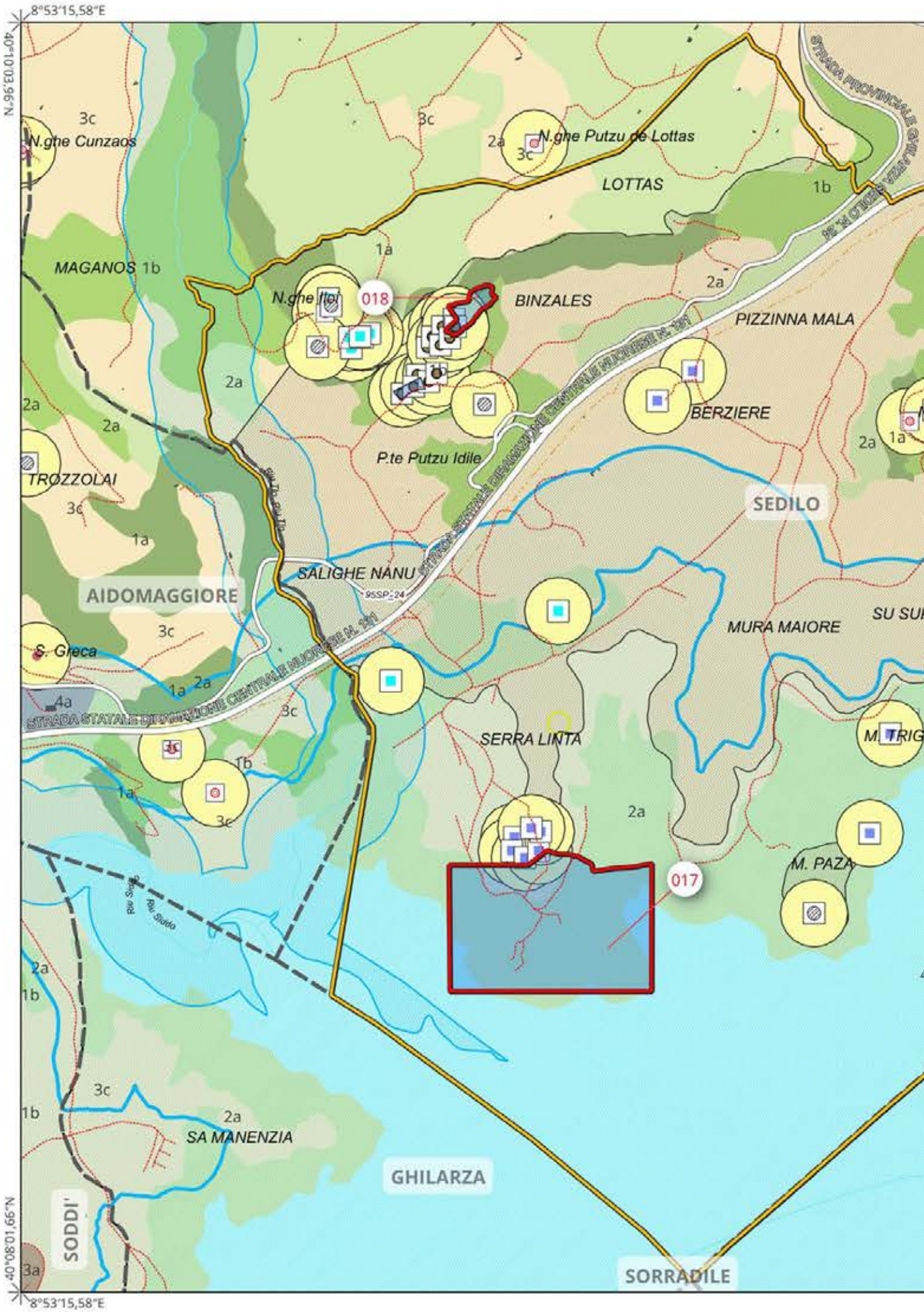
Pericolo_Geomorfologico_PAI_PGRA_Rev_Dic_22
- Hg1
- Hg2
- Hg3
- Hg4

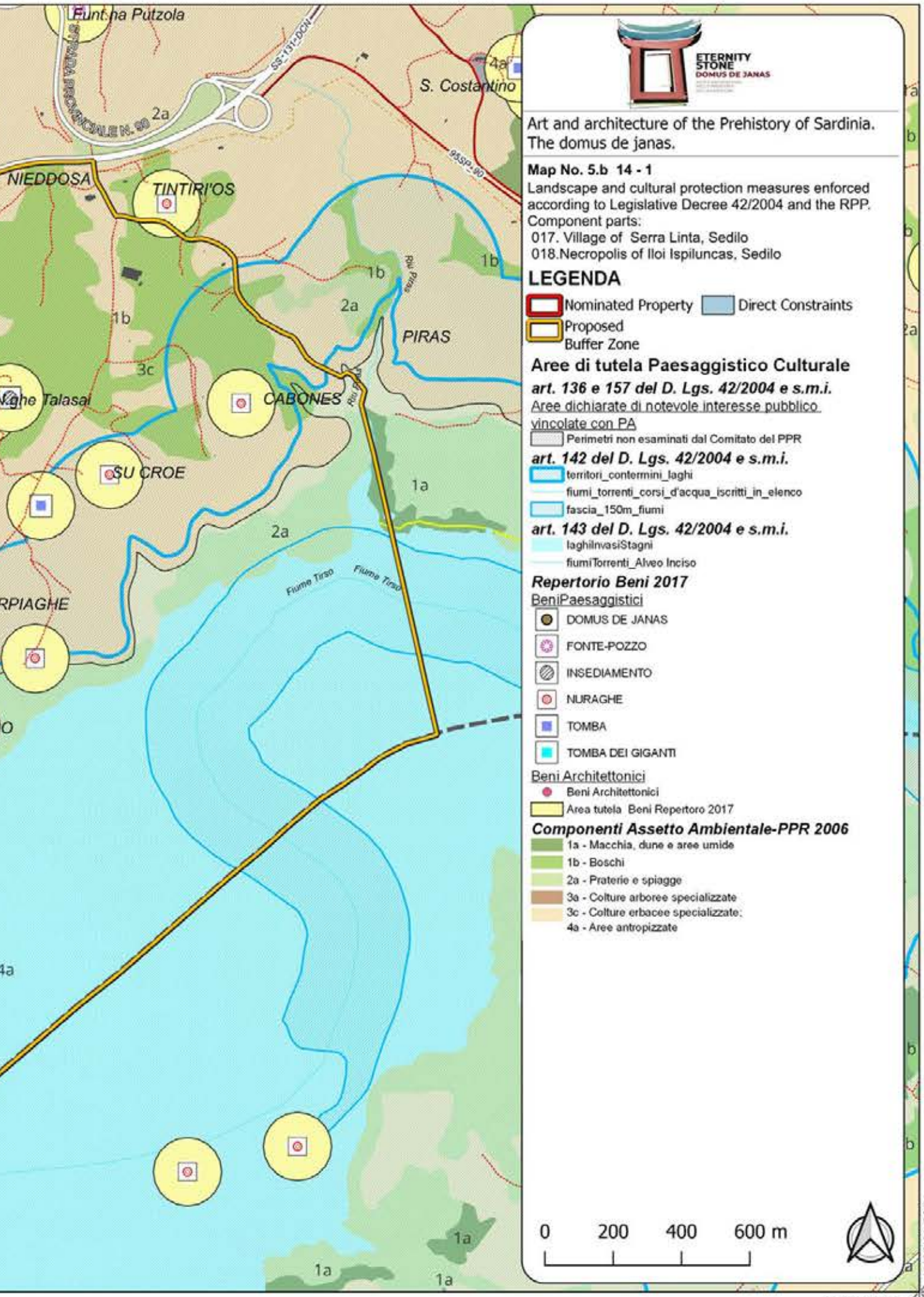
PericoloGeomorfologicoArt8C2_Hg_V09
- Hg2

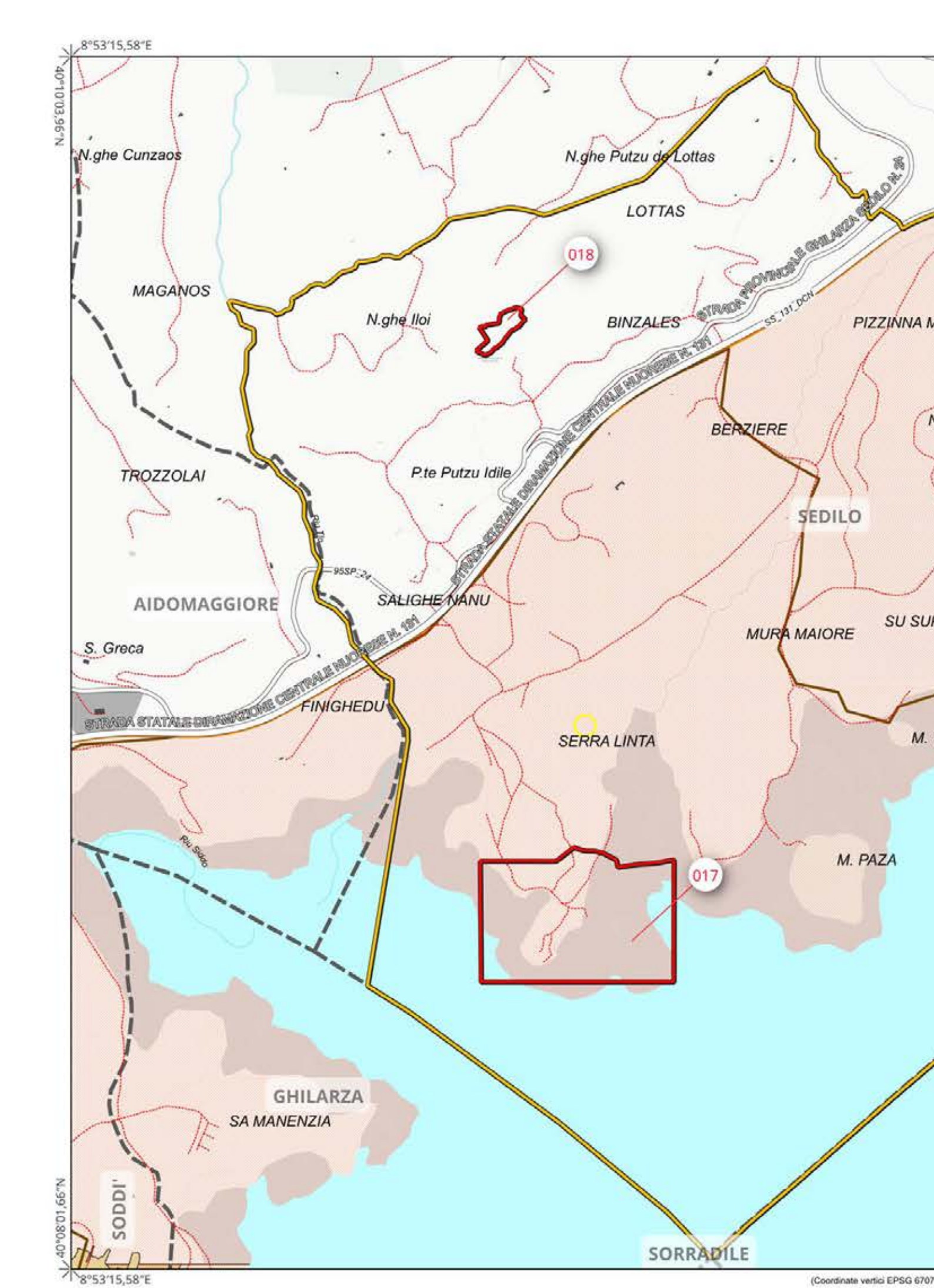
Aree di tutela Ambientale
- Oasi_permanenti_di_protezione_faunistica e_di_cattura_istituite
- Oasi_permanenti_di_protezione_faunistica e_di_cattura_proposte

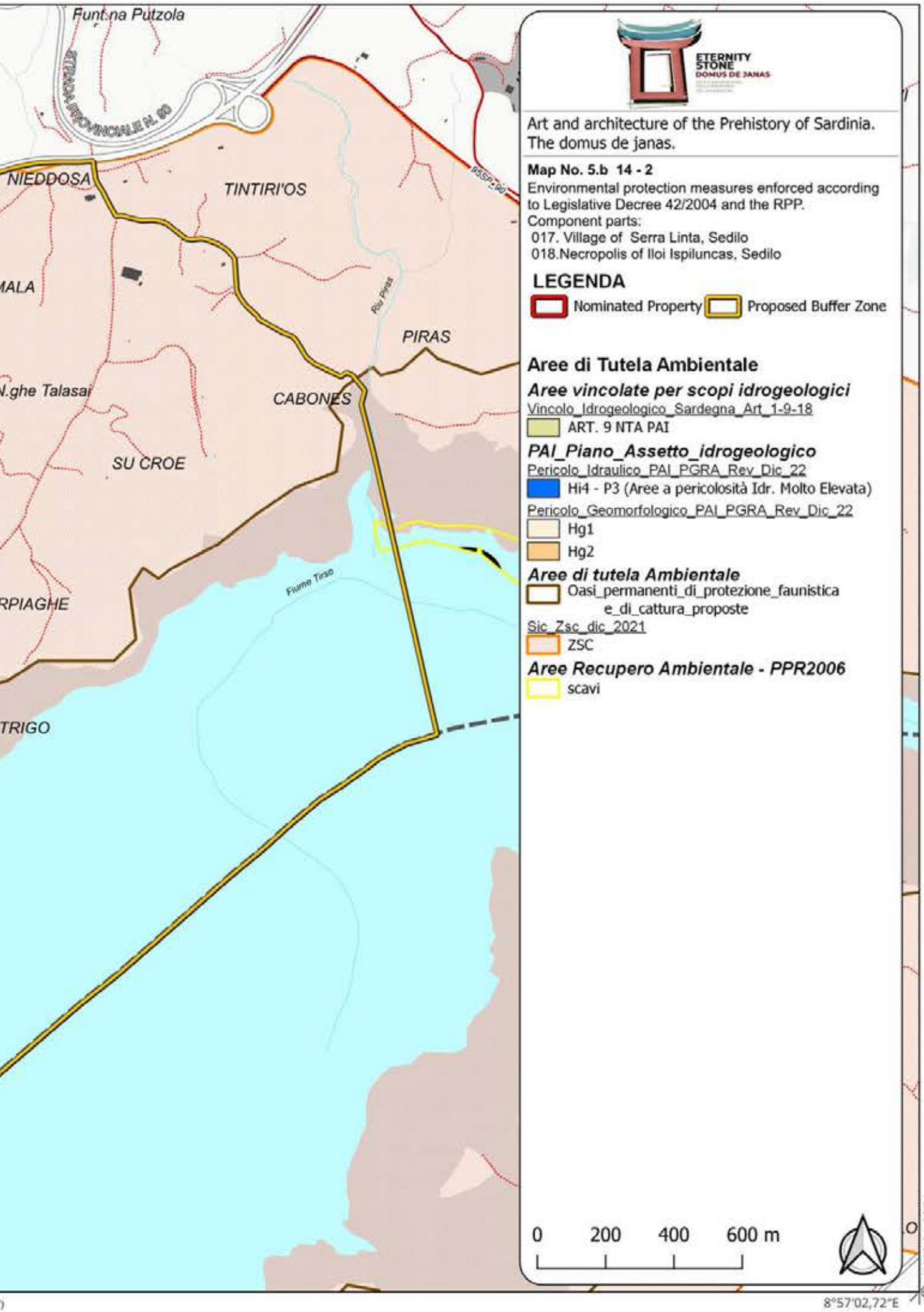
Sic_Zsc_dic_2021
- ZSC
- Unità Gestionali Base Ente Foreste

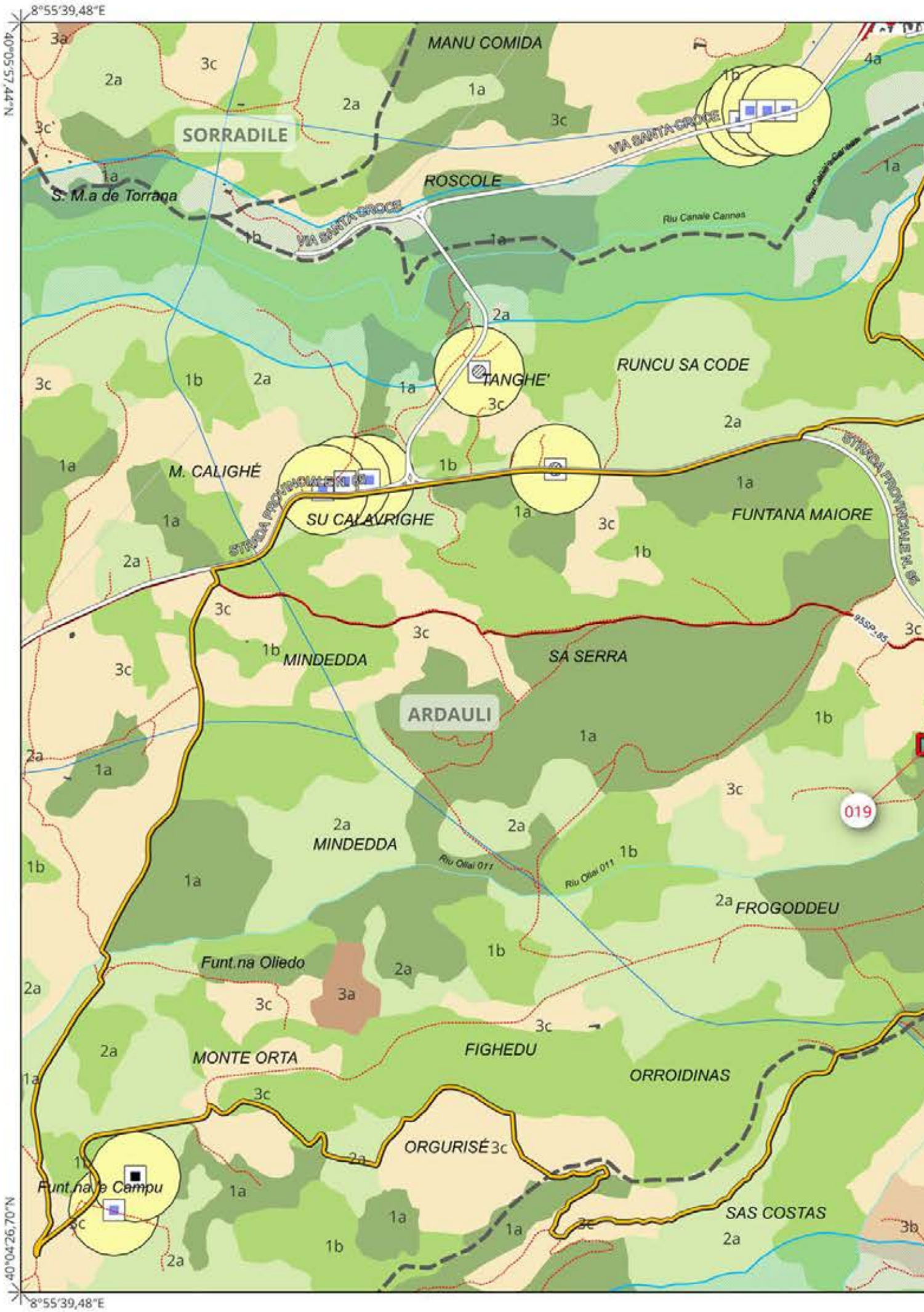
40°27'24,09"N
9°01'11,65"E

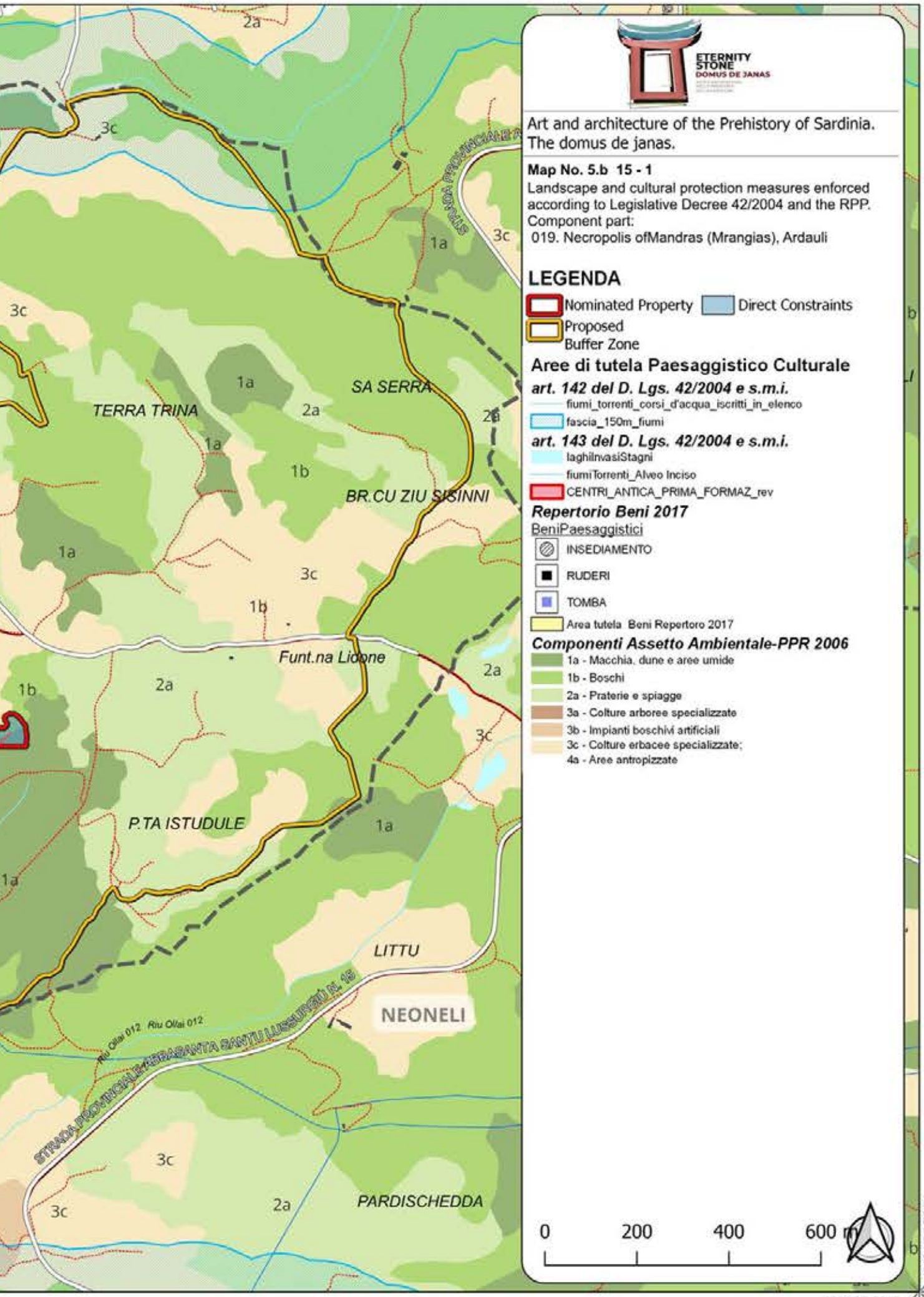

8°53'15,58"E
40°10'03,96"N
40°08'01,66"N
8°53'15,58"E
3c
N.ghe Cunzaos
3c
2a
3c
N.ghe Putzu de Lottas
LOTTAS
1b
1a
MAGANOS 1b
N.ghe Ilai
018
BINZALES
2a
PIZZINNA MALA
2a
2a
2a
BERZIERE
P.te Putzu Idile
2a
1a
TROZZOLAI
3c
SEDILO
1a
SALIGHE NANU
AIDOMAGGIORE
3c
MURA MAIORE
S. Greca
1a
2a
4a
3c
SERRA LINTA
1b
1a
3c
2a
M. PAZA
017
2a
1b
3c
1b
2a
SA MANENZIA
GHILARZA
SODDI'
3a
SORRADILE

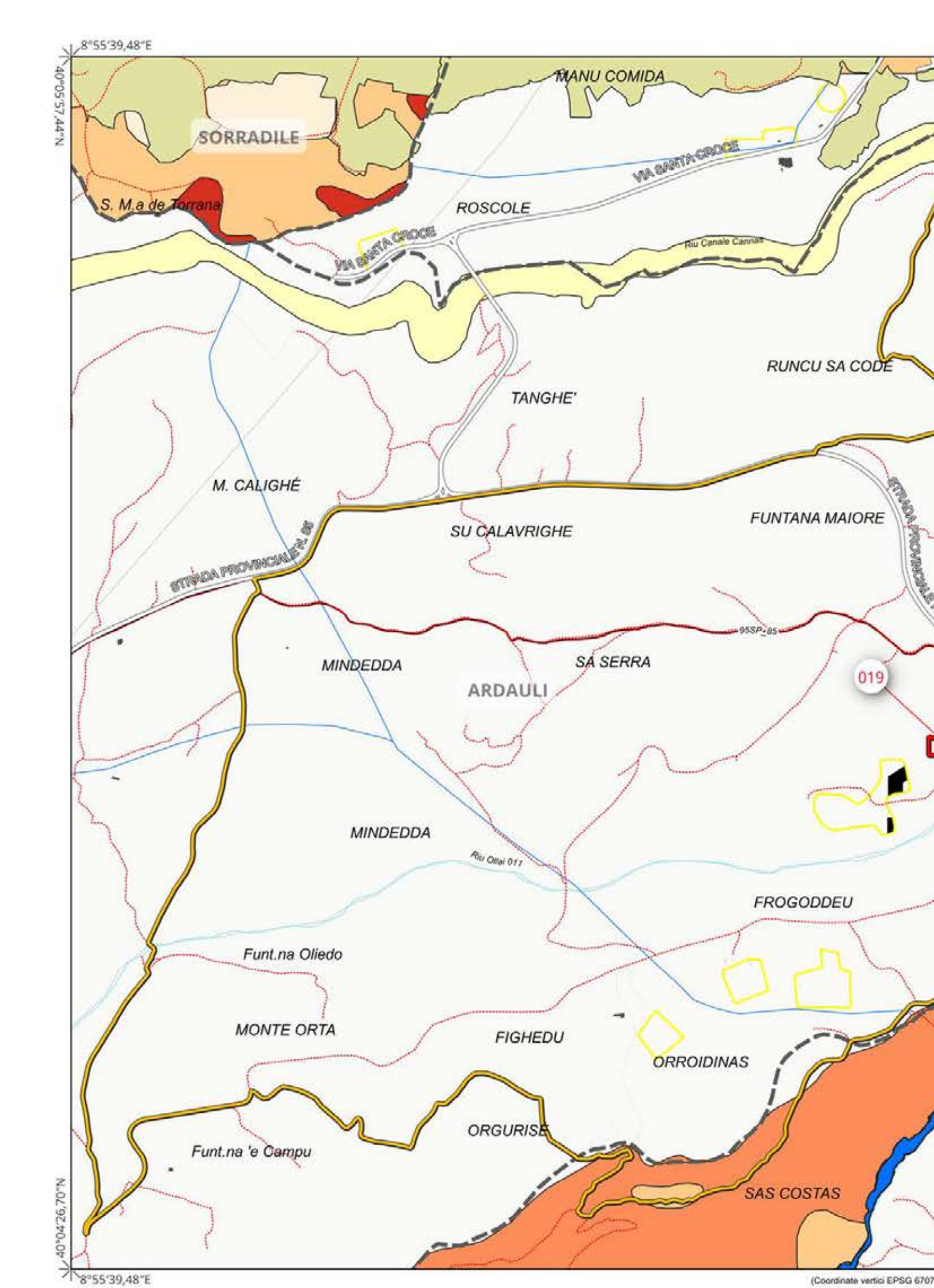

Funt.ha Putzola
STRADA PROVINCIALE N. 90
SS-131-DCN
S. Costantino
4a
2a
NIEDDOSA
TINTIRI'OS
1b
2a
PIRAS
Rio Piras
3c
CABONES
SU CROE
1a
Fiume Tirso
RPIAGHE
4a
1a
ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 5.b 14 - 1
Landscape and cultural protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component parts:
017. Village of Serra Linta, Sedilo
018.Necropolis of Iloi Ispiluncas, Sedilo
LEGENDA
Nominated Property
Direct Constraints
Proposed Buffer Zone
Aree di tutela Paesaggistico Culturale
art. 136 e 157 del D. Lgs. 42/2004 e s.m.i.
Aree dichiarate di notevole interesse pubblico vincolate con PA
Perimetri non esaminati dal Comitato del PPR
art. 142 del D. Lgs. 42/2004 e s.m.i.
territori_contermini_laghi
fiumi_torrenti_corsi_d'acqua_iscritti_in_elenco
fascia_150m_fiumi
art. 143 del D. Lgs. 42/2004 e s.m.i.
laghiInvasiStagni
fiumiTorrenti_Alveo Inciso
Repertorio Beni 2017
BeniPaesaggistici
DOMUS DE JANAS
FONTE-POZZO
INSEDIAMENTO
NURAGHE
TOMBA
TOMBA DEI GIGANTI
Beni Architettonici
Beni Architettonici
Area tutela Beni Repertoro 2017
Componenti Assetto Ambientale-PPR 2006
1a - Macchia, dune e aree umide
1b - Boschi
2a - Praterie e spiagge
3a - Colture arboree specializzate
3c - Colture erbacee specializzate;
4a - Aree antropizzate
0
200
400
600 m
40°08'01,66"N
8°57'02,72"E

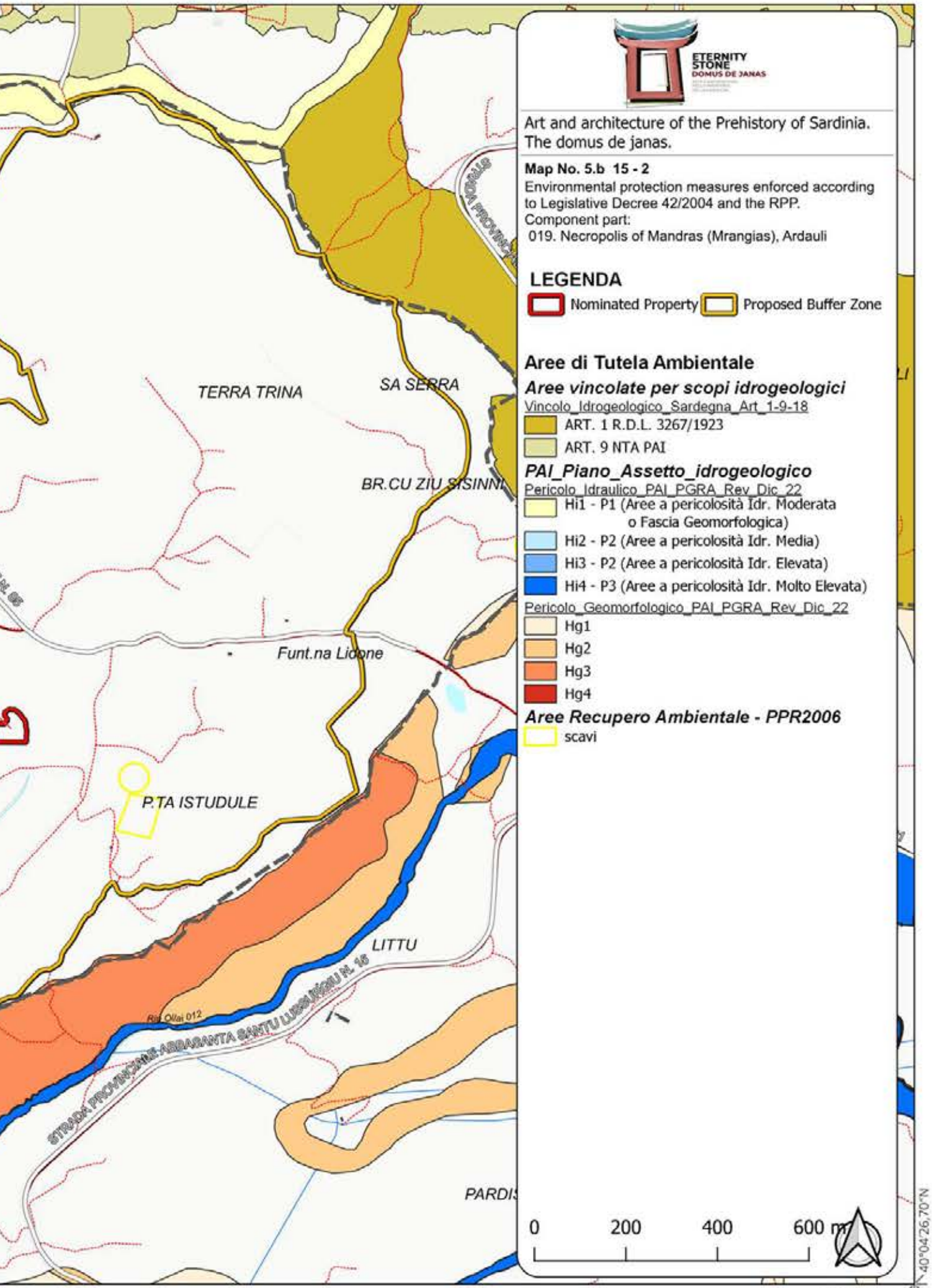

8°53'15,58"E
40°10'03,96"N
N.ghe Cunzaos
N.ghe Putzu de Lottas
LOTTAS
018
MAGANOS
N.ghe Iloi
BINZALES
STRADA PROVINCIALE GHILARZA TERMO N. 35
SS_131_DCN
PIZZINNA M
BERZIERE
TROZZOLAI
P.te Putzu Idile
SEDILO
95SP_24
AIDOMAGGIORE
SALIGHE NANU
STRADA STATALE DIRAMAZIONE CENTRALE NUORESE N. 131
MURA MAIORE
S. Greca
FINIGHEDU
SERRA LINTA
M. PAZA
017
GHILARZA
SA MANENZIA
SODDI'
SORRADILE
40°08'01,69"N
8°53'15,58"E
(Coordinate vertici EPSG 6707


Funt.na Putzola
STRADA PROVINCIALE N. 60
NIEDDOSA
TINTIRI'OS
PSSP 90
MALA
Riu Piras
PIRAS
N.ghe Talasai
CABONES
SU CROE
Fiume Tirso
RPIAGHE
TRIGO
ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 5.b 14 - 2
Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component parts:
017. Village of Serra Linta, Sedilo
018.Necropolis of Iloi Ispiluncas, Sedilo
LEGENDA
Nominated Property
Proposed Buffer Zone
Aree di Tutela Ambientale
Aree vincolate per scopi idrogeologici
Vincolo_Idrogeologico_Sardegna_Art_1-9-18
ART. 9 NTA PAI
PAI_Piano_Assetto_idrogeologico
Pericolo_Idraulico_PAI_PGRA_Rev_Dic_22
Hi4 - P3 (Aree a pericolosità Idr. Molto Elevata)
Pericolo_Geomorfologico_PAI_PGRA_Rev_Dic_22
Hg1
Hg2
Aree di tutela Ambientale
Oasi_permanenti_di_protezione_faunistica e_di_cattura_proposte
Sic_Zsc_dic_2021
ZSC
Aree Recupero Ambientale - PPR2006
scavi
0
200
400
600 m
40°08'01,66"N
8°57'02,72"E


8°55'39,48"E
40°05'57,44"N
MANU COMIDA
SORRADILE
S. M.a de Torraga
ROSCOLE
VIA SANTA CROCE
Riu Canale Cannas
TANGHE'
RUNCU SA CODE
M. CALIGHÈ
SU CALAVRIGHE
FUNTANA MAIORE
MINDEDDA
SA SERRA
ARDAULI
Riu Ollai 011
FROGODDEU
Funt.na Oliedo
MONTE ORTA
FIGHEDU
ORROIDINAS
ORGURISÉ
Funt.na 'e Campu
SAS COSTAS
019
40°04'26,70"N
8°55'39,48"E


ETERNITY STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 5.b 15 - 1
Landscape and cultural protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
019. Necropolis ofMandras (Mrangias), Ardauli
LEGENDA
Nominated Property
Direct Constraints
Proposed
Buffer Zone
Aree di tutela Paesaggistico Culturale
art. 142 del D. Lgs. 42/2004 e s.m.i.
fiumi_torrenti_corsi_d'acqua_iscritti_in_elenco
fascia_150m_fiumi
art. 143 del D. Lgs. 42/2004 e s.m.i.
laghiInvasiStagni
fiumiTorrenti_Alveo Inciso
CENTRI_ANTICA_PRIMA_FORMAZ_rev
Repertorio Beni 2017
BeniPaesaggistici
INSEDIAMENTO
RUDERI
TOMBA
Area tutela Beni Repertoro 2017
Componenti Assetto Ambientale-PPR 2006
1a - Macchia, dune e aree umide
1b - Boschi
2a - Praterie e spiagge
3a - Colture arboree specializzate
3b - Impianti boschivi artificiali
3c - Colture erbacee specializzate;
4a - Aree antropizzate
TERRA TRINA
SA SERRA
BR.CU ZIU SISINNI
Funt.na Lidone
P.TA ISTUDULE
LITTU
NEONELI
PARDISCHEDDA
0
200
400
600 m
40°04'26,70"N
8°58'27,88"E


8°55'39,48"E
40°05'7,44"N
40°04'26,70"N
8°55'39,48"E
MANU COMIDA
SORRADILE
S. M.a de Torrana
ROSCOLE
VIA SANTA CROCE
VIA SANTA CROCE
Riu Canale Cannas
RUNCU SA CODE
TANGHE'
M. CALIGHÉ
SU CALAVRIGHE
FUNTANA MAIORE
STRADA PROVINCIALE N. 95
STRADA PROVINCIALE
95SP_85
MINDEDDA
SA SERRA
ARDAULI
019
MINDEDDA
Riu Ollai 011
FROGODDEU
Funt.na Oliedo
MONTE ORTA
FIGHEDU
ORROIDINAS
ORGURISE
Funt.na 'e Campu
SAS COSTAS
(Coordinate vertici EPSG 6707



ETERNITY STONE
DOMUS DE JANAS

Art and architecture of the Prehistory of Sardinia.
The domus de janas.

Map No. 5.b 15 - 2

Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
019. Necropolis of Mandras (Mrangias), Ardauli

LEGENDA

Nominated Property
Proposed Buffer Zone

Aree di Tutela Ambientale

Aree vincolate per scopi idrogeologici

Vincolo_Idrogeologico_Sardegna_Art_1-9-18

- ART. 1 R.D.L. 3267/1923
- ART. 9 NTA PAI

PAI_Piano_Assetto_idrogeologico

Pericolo_Idraulico_PAI_PGRA_Rev_Dic_22

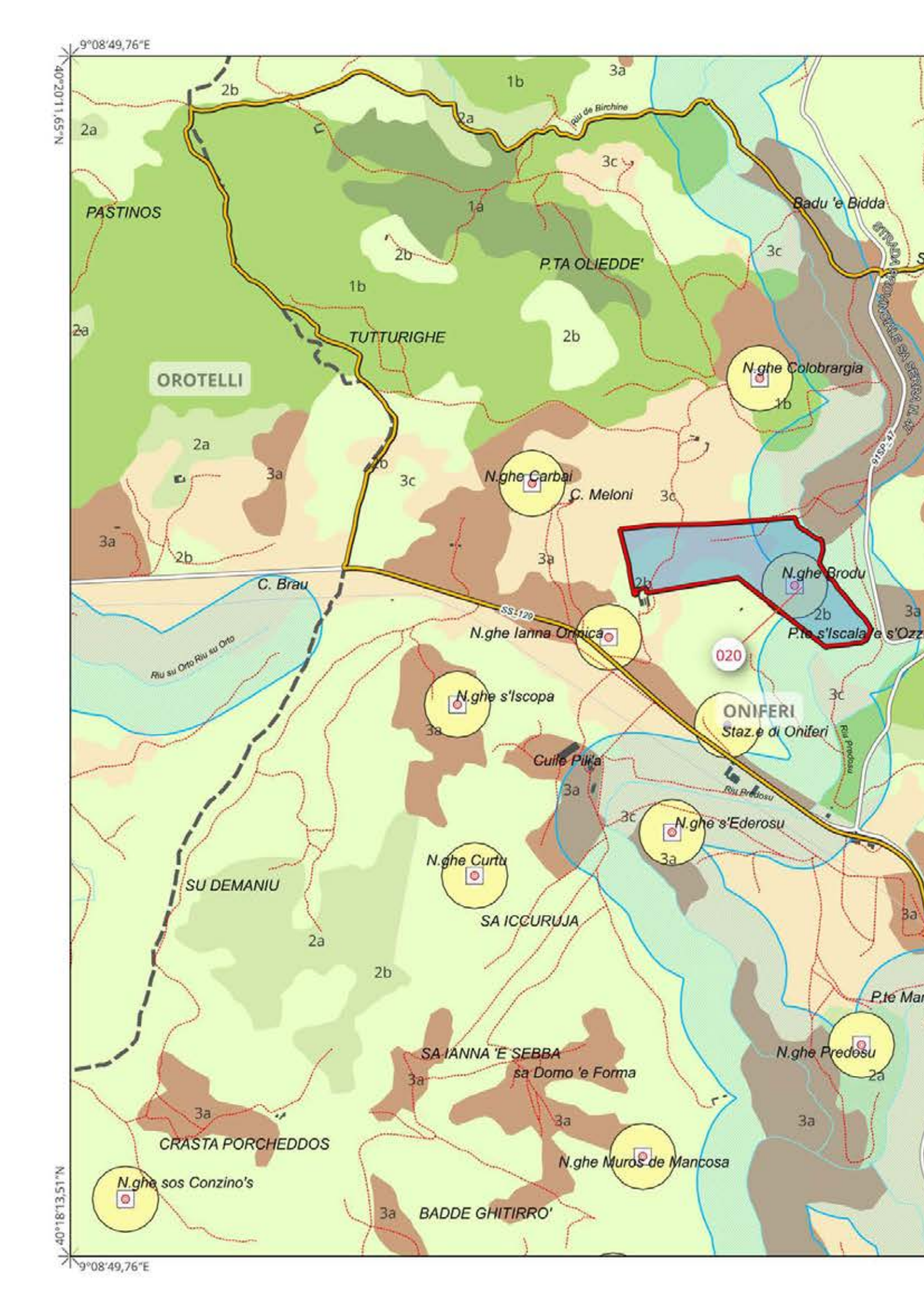
- Hi1 - P1 (Aree a pericolosità Idr. Moderata o Fascia Geomorfologica)
- Hi2 - P2 (Aree a pericolosità Idr. Media)
- Hi3 - P2 (Aree a pericolosità Idr. Elevata)
- Hi4 - P3 (Aree a pericolosità Idr. Molto Elevata)

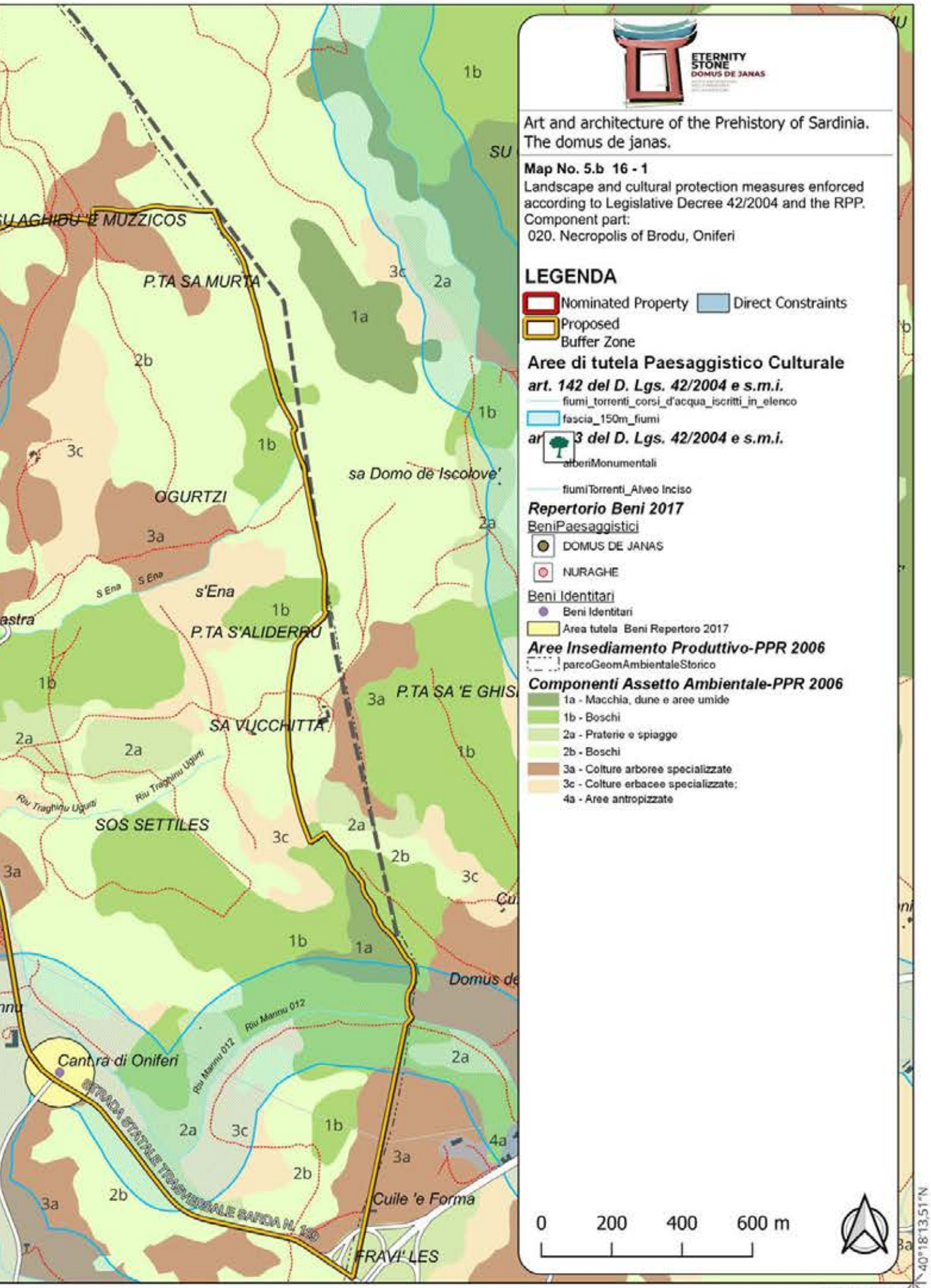
Pericolo_Geomorfologico_PAI_PGRA_Rev_Dic_22

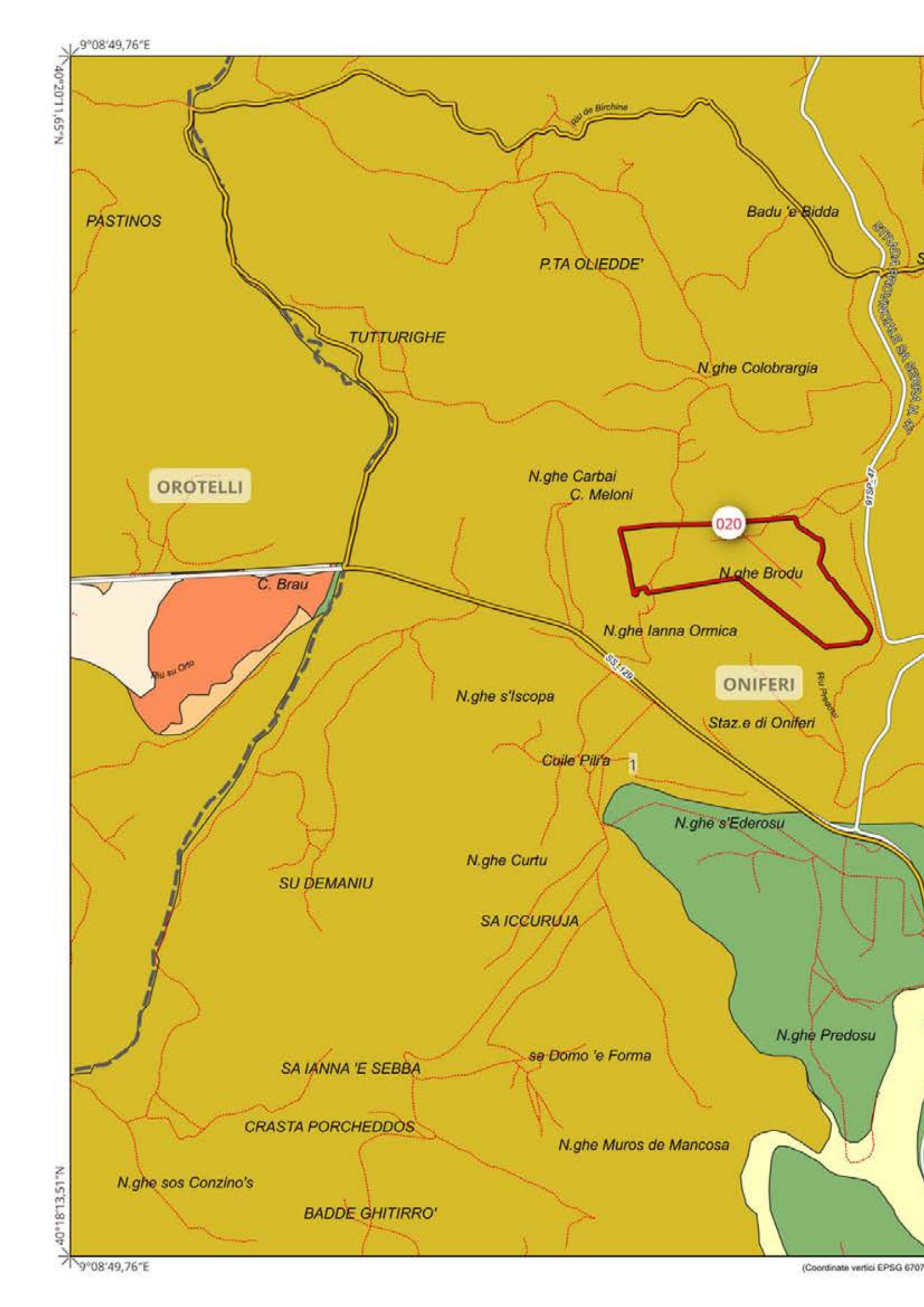
- Hg1
- Hg2
- Hg3
- Hg4

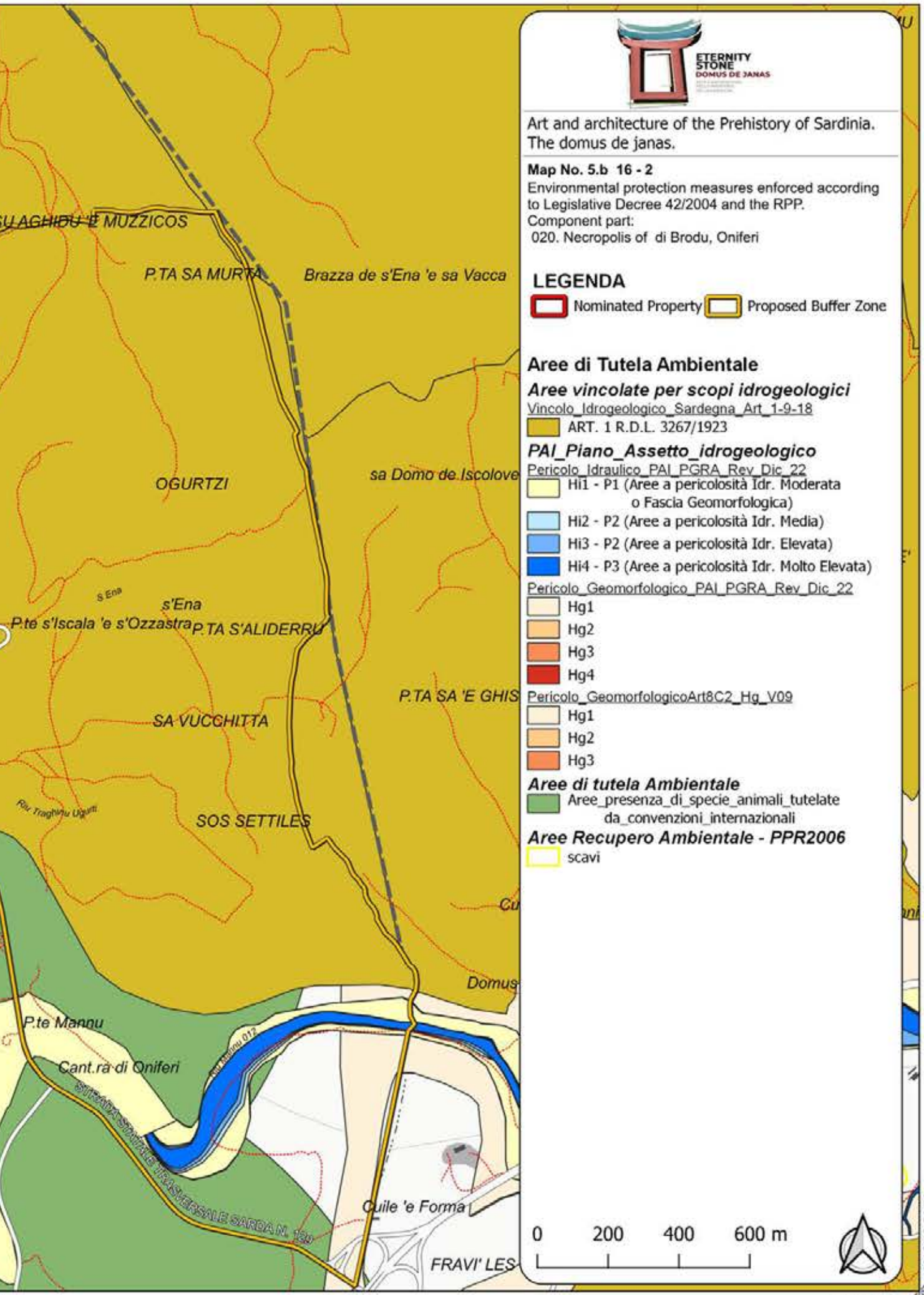
Aree Recupero Ambientale - PPR2006

- scavi


9°08'49,76"E
40°20'11,65"N
40°18'13,51"N
9°08'49,76"E
PASTINOS
TUTTURIGHE
P.TA OLIEDDE'
OROTELLI
Badu 'e Bidda
N.ghe Colobrargia
N.ghe Carbai
C. Meloni
N.ghe Brodu
C. Brau
N.ghe Ianna Ornica
N.ghe s'Iscopa
ONIFERI
Staz.e di Oniferi
Culle Pili'a
N.ghe s'Ederosu
N.ghe Curtu
SU DEMANIU
SA ICCURUJA
SA IANNA 'E SEBBA
sa Domo 'e Forma
N.ghe Predosu
CRASTA PORCHEDDOS
N.ghe Muros de Mancosa
N.ghe sos Conzino's
BADDE GHITIRRO'
Riu de Birchine
Riu su Orto
Riu Predosu
SS 129
020
1a
1b
2a
2b
3a
3c


ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 5.b 16 - 1
Landscape and cultural protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
020. Necropolis of Brodu, Oniferi
LEGENDA
Nominated Property
Direct Constraints
Proposed
Buffer Zone
Aree di tutela Paesaggistico Culturale
art. 142 del D. Lgs. 42/2004 e s.m.i.
fiumi_torrenti_corsi_d'acqua_iscritti_in_elenco
fascia_150m_fiumi
alberiMonumentali
fiumiTorrenti_Alveo Inciso
Repertorio Beni 2017
BeniPaesaggistici
DOMUS DE JANAS
NURAGHE
Beni Identitari
Beni Identitari
Area tutela Beni Repertoro 2017
Aree Insediamento Produttivo-PPR 2006
parcoGeomAmbientaleStorico
Componenti Assetto Ambientale-PPR 2006
1a - Macchia, dune e aree umide
1b - Boschi
2a - Praterie e spiagge
2b - Boschi
3a - Colture arboree specializzate
3c - Colture erbacee specializzate;
4a - Aree antropizzate
0
200
400
600 m
P.TA SA MURTA
OGURTZI
sa Domo de Iscolove'
s'Ena
P.TA S'ALIDERRU
SA VUCCHITTA
SOS SETTILES
Cantra di Oniferi
Culle 'e Forma
FRAVI' LES
Riu Mannu 012
Riu Traghinu Uguni
STRADA STATALE TRASVERSALE SARDA N. 125
40°18'13,51"N
9°12'29,56"E


9°08'49,76"E
40°20'11,65"N
40°18'13,51"N
9°08'49,76"E
Riu de Birchine
PASTINOS
Badu 'e Bidda
P.TA OLIEDDE'
STRADA PROVINCIALE SA SERRA N. 42
TUTTURIGHE
N.ghe Colobrargia
OROTELLI
N.ghe Carbai
C. Meloni
SP_41
020
N.ghe Brodu
C. Brau
N.ghe Ianna Ormica
SS 129
Riu su Otto
ONIFERI
Riu Predosu
N.ghe s'Iscopa
Staz.e di Oniferi
Cuile Pili'a
1
N.ghe s'Ederosu
N.ghe Curtu
SU DEMANIU
SA ICCURUJA
N.ghe Predosu
sa Domo 'e Forma
SA IANNA 'E SEBBA
CRASTA PORCHEDDOS
N.ghe Muros de Mancosa
N.ghe sos Conzino's
BADDE GHITIRRO'
(Coordinate vertici EPSG 6707



ETERNITY STONE
DOMUS DE JANAS

Art and architecture of the Prehistory of Sardinia.
The domus de janas.

Map No. 5.b 16 - 2
Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
020. Necropolis of di Brodu, Oniferi

LEGENDA

Nominated Property
Proposed Buffer Zone

Aree di Tutela Ambientale

Aree vincolate per scopi idrogeologici

Vincolo_Idrogeologico_Sardegna_Art_1-9-18
- ART. 1 R.D.L. 3267/1923

PAI_Piano_Assetto_idrogeologico

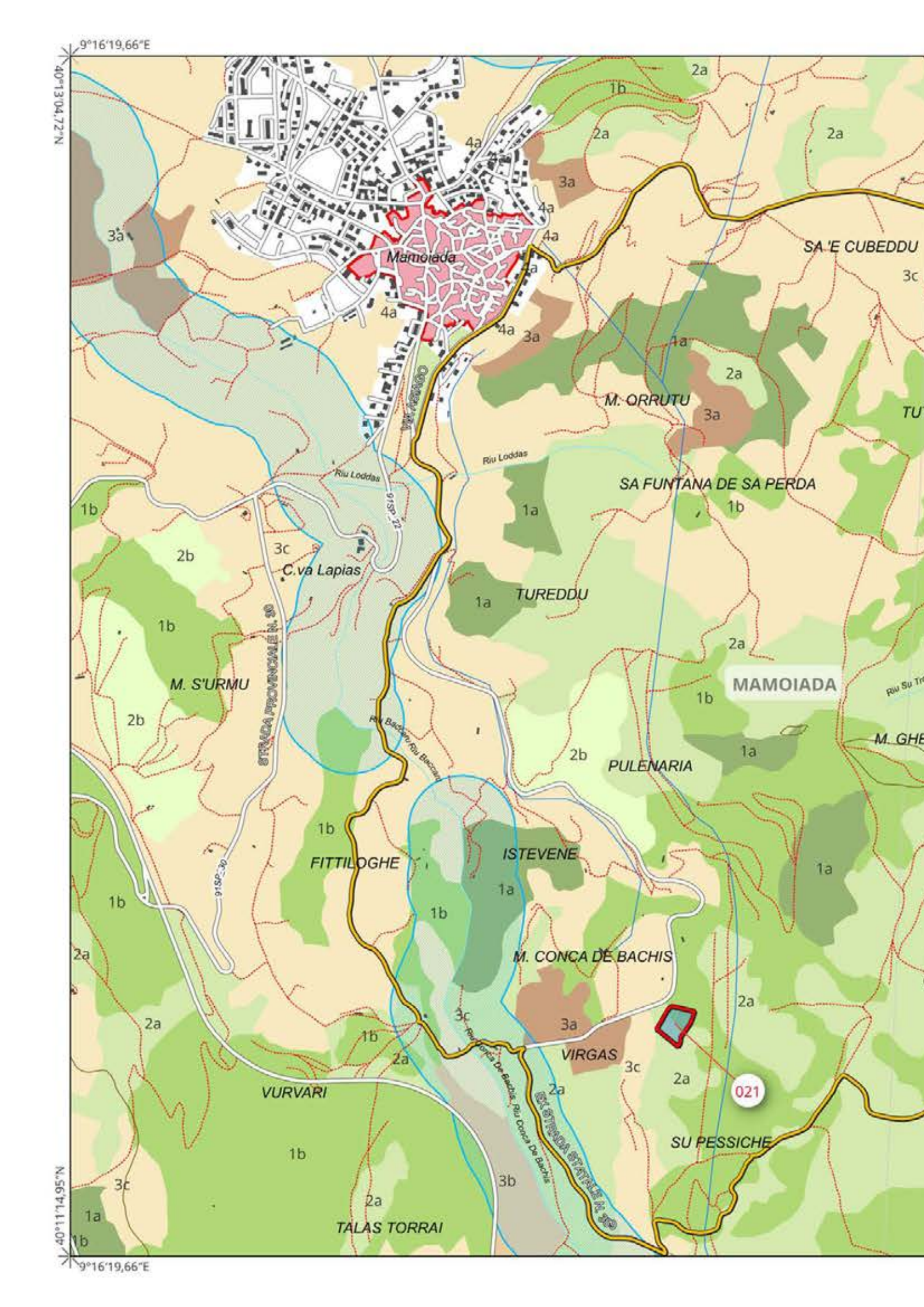
Pericolo_Idraulico_PAI_PGRA_Rev_Dic_22
- Hi1 - P1 (Aree a pericolosità Idr. Moderata o Fascia Geomorfologica)
- Hi2 - P2 (Aree a pericolosità Idr. Media)
- Hi3 - P2 (Aree a pericolosità Idr. Elevata)
- Hi4 - P3 (Aree a pericolosità Idr. Molto Elevata)

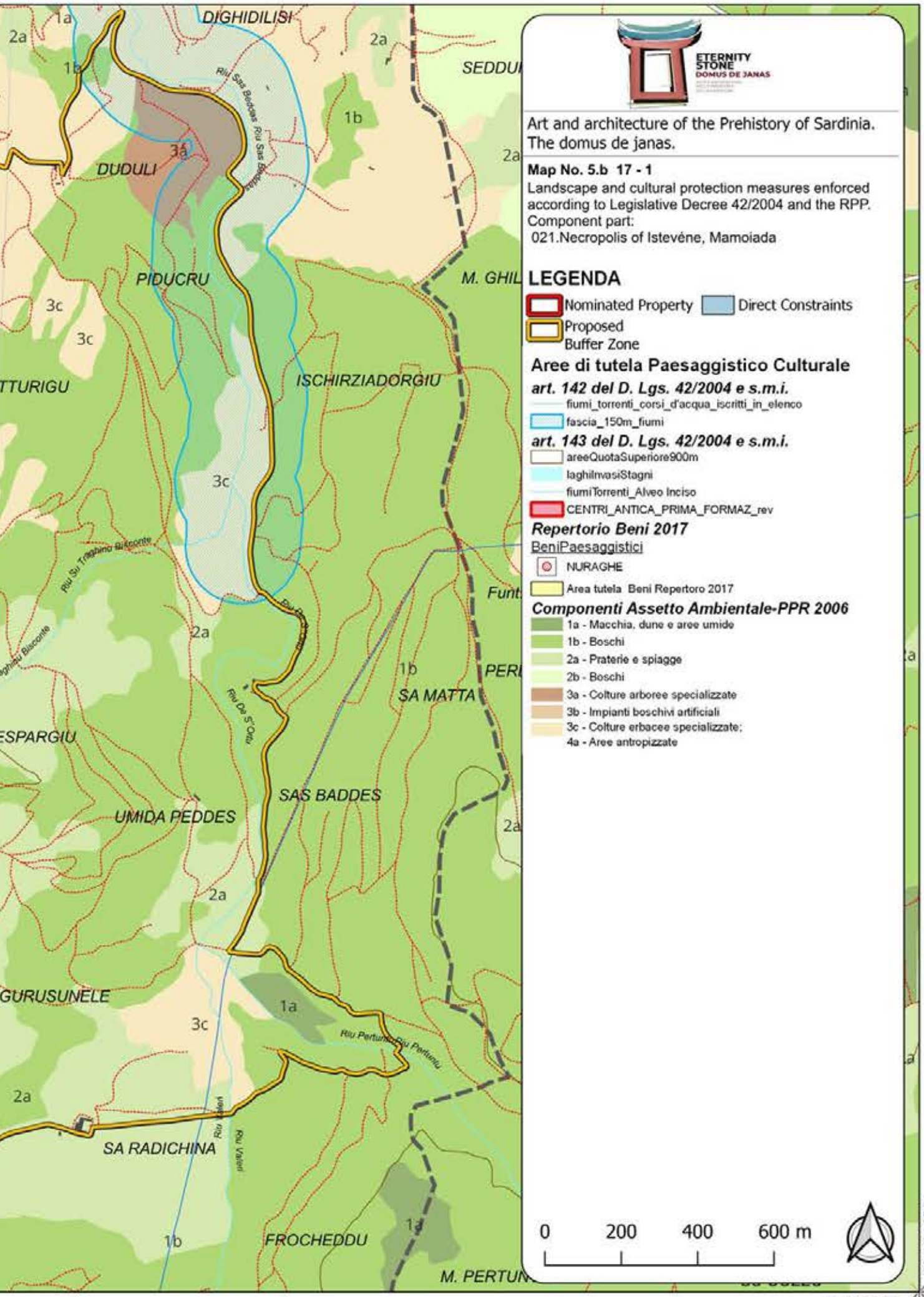
Pericolo_Geomorfologico_PAI_PGRA_Rev_Dic_22
- Hg1
- Hg2
- Hg3
- Hg4

Pericolo_GeomorfologicoArt8C2_Hg_V09
- Hg1
- Hg2
- Hg3

Aree di tutela Ambientale
- Aree_presenza_di_specie_animali_tutelate da_convenzioni_internazionali

Aree Recupero Ambientale - PPR2006
- scavi


9°16'19,66"E
40°13'04,72"N
40°11'14,95"N
9°16'19,66"E
Mamoiada
SA 'E CUBEDDU
M. ORRUTU
SA FUNTANA DE SA PERDA
C.va Lapias
TUREDDU
MAMOIADA
M. S'URMU
PULENARIA
FITTILOGHE
ISTEVENE
M. CONCA DE BACHIS
VIRGAS
VURVARI
SU PESSICHE
TALAS TORRAI
Riu Loddas
Riu Baccaru
Riu Conca De Bachis
91SP_22
91SP_30
STRADA PROVINCIALE 30
EX STRADA STATALE 129
021



ETERNITY STONE
DOMUS DE JANAS

Art and architecture of the Prehistory of Sardinia.
The domus de janas.

Map No. 5.b 17 - 1

Landscape and cultural protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
021.Necropolis of Istevéne, Mamoiada

LEGENDA

Nominated Property
Direct Constraints
Proposed Buffer Zone

Aree di tutela Paesaggistico Culturale

art. 142 del D. Lgs. 42/2004 e s.m.i.

fiumi_torrenti_corsi_d'acqua_iscritti_in_elenco
fascia_150m_fiumi

art. 143 del D. Lgs. 42/2004 e s.m.i.

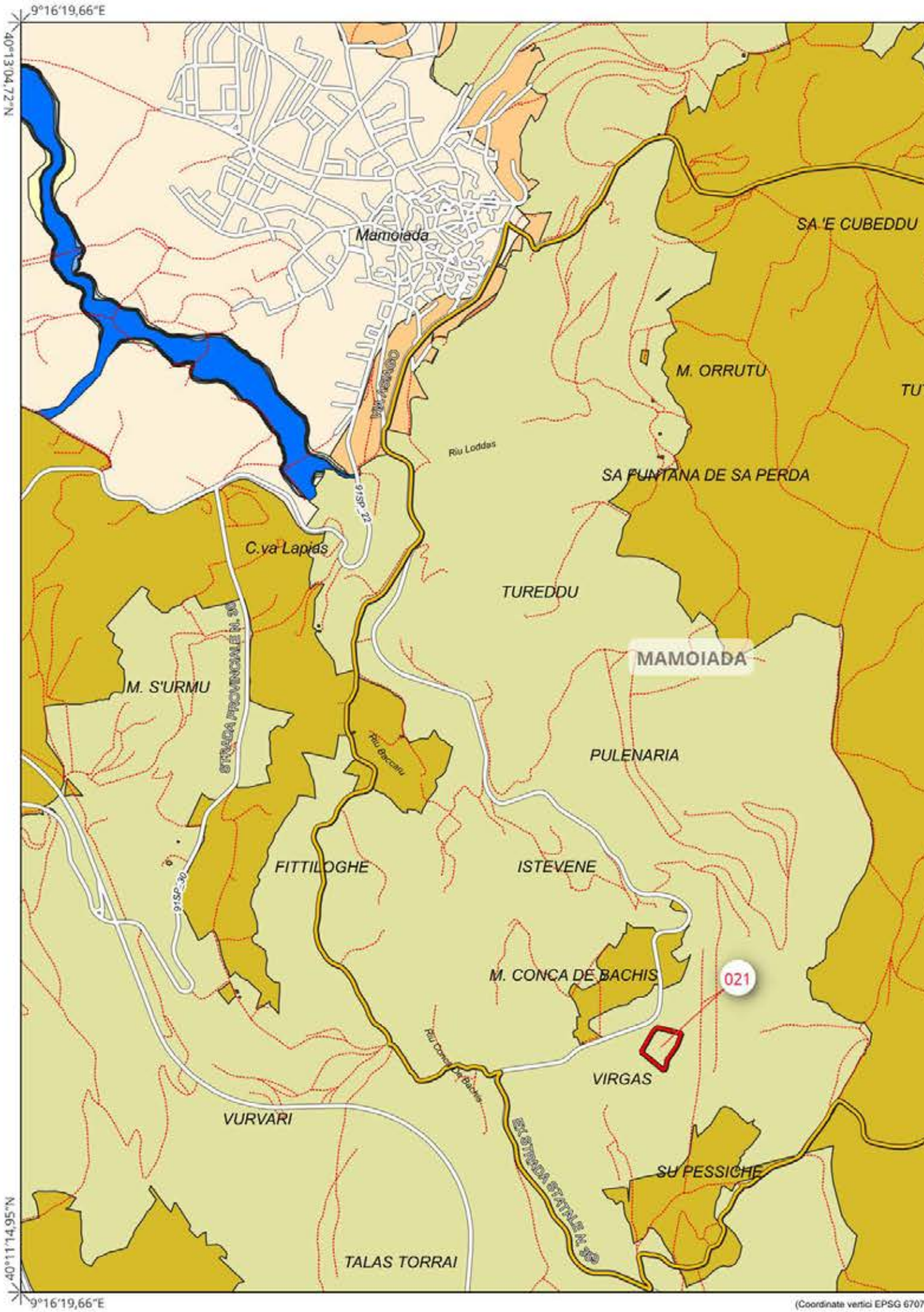
areeQuotaSuperiore900m
laghiInvasiStagni
fiumiTorrenti_Alveo Inciso
CENTRI_ANTICA_PRIMA_FORMAZ_rev

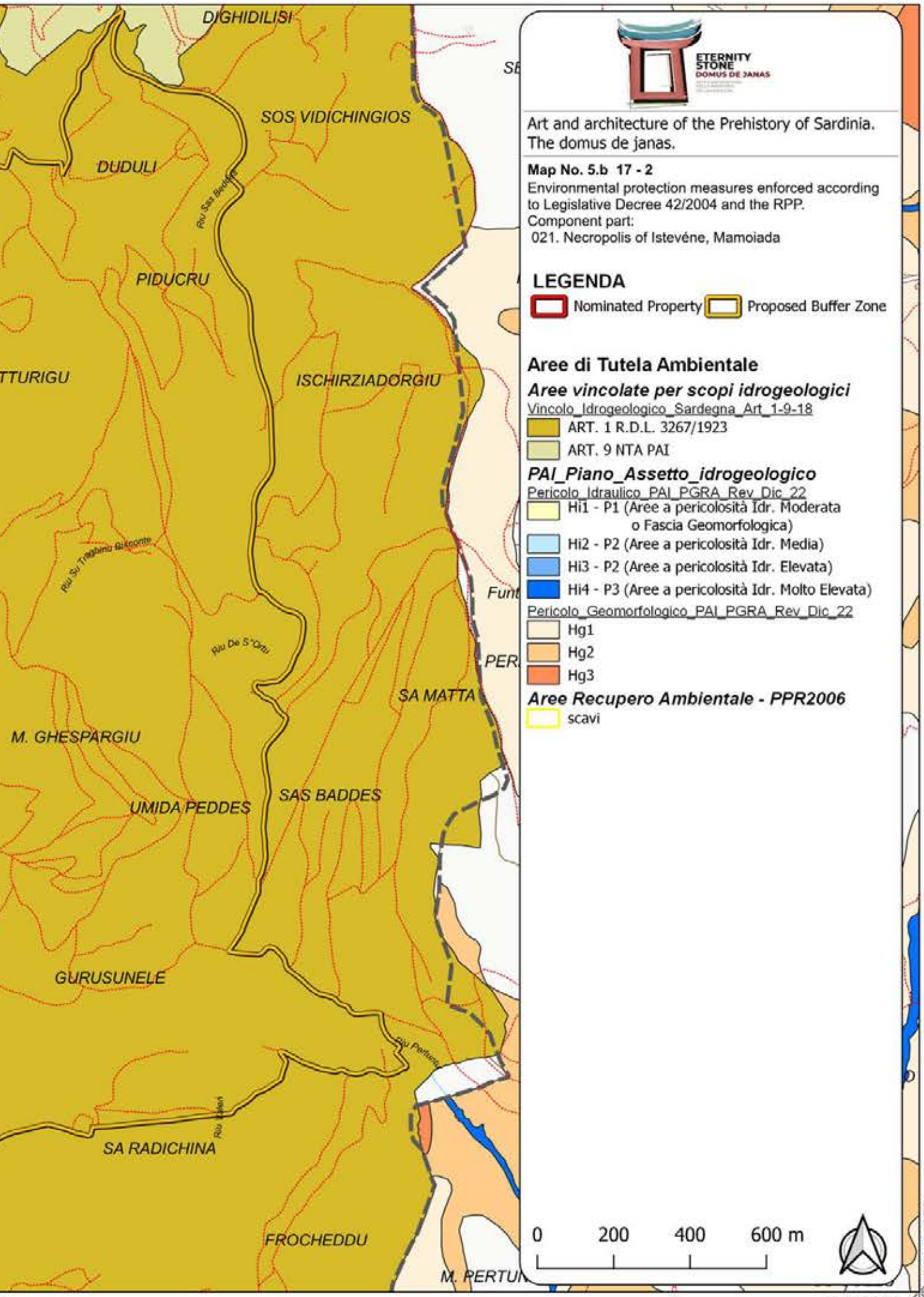
Repertorio Beni 2017

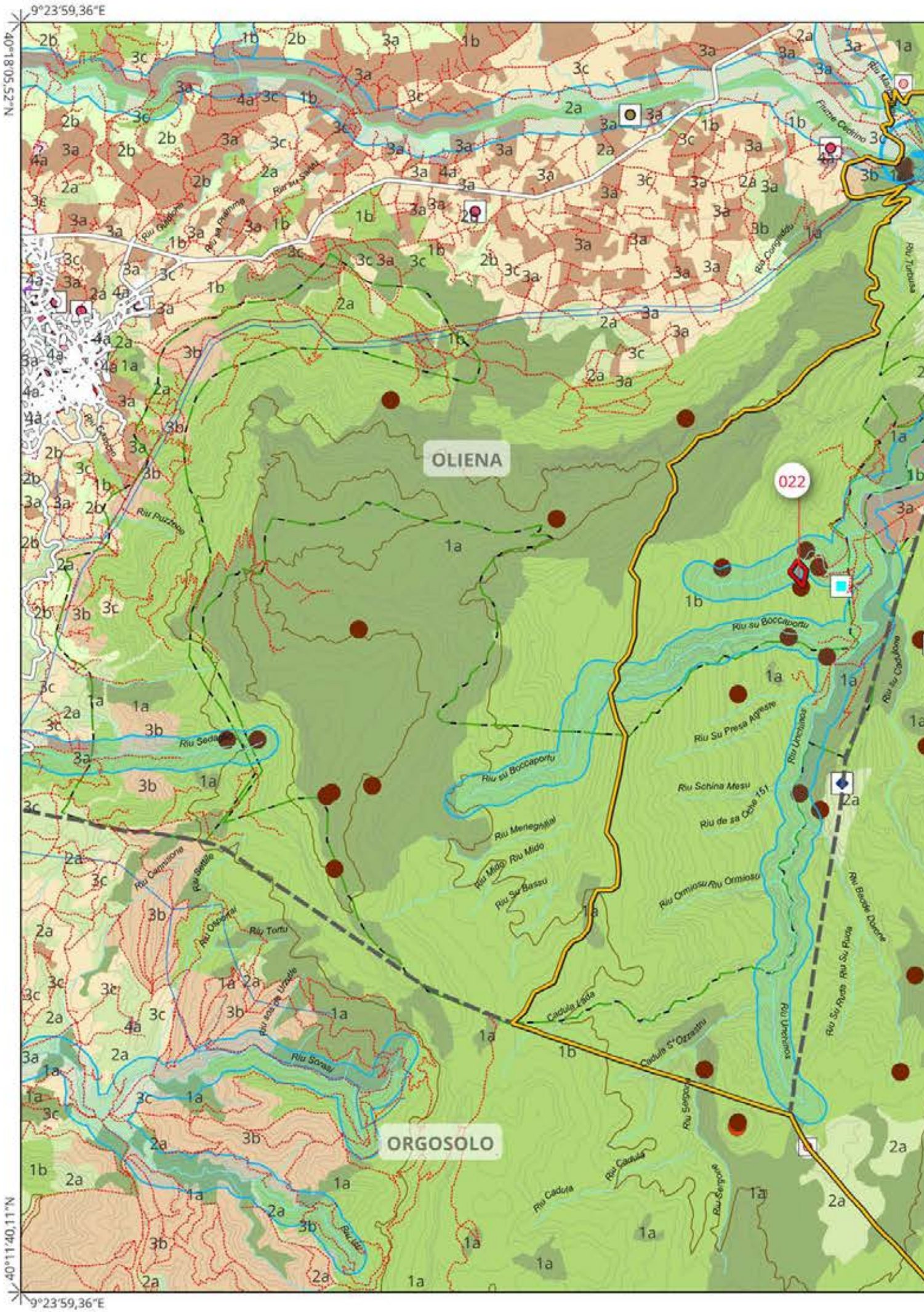
BeniPaesaggistici
NURAGHE
Area tutela Beni Repertoro 2017

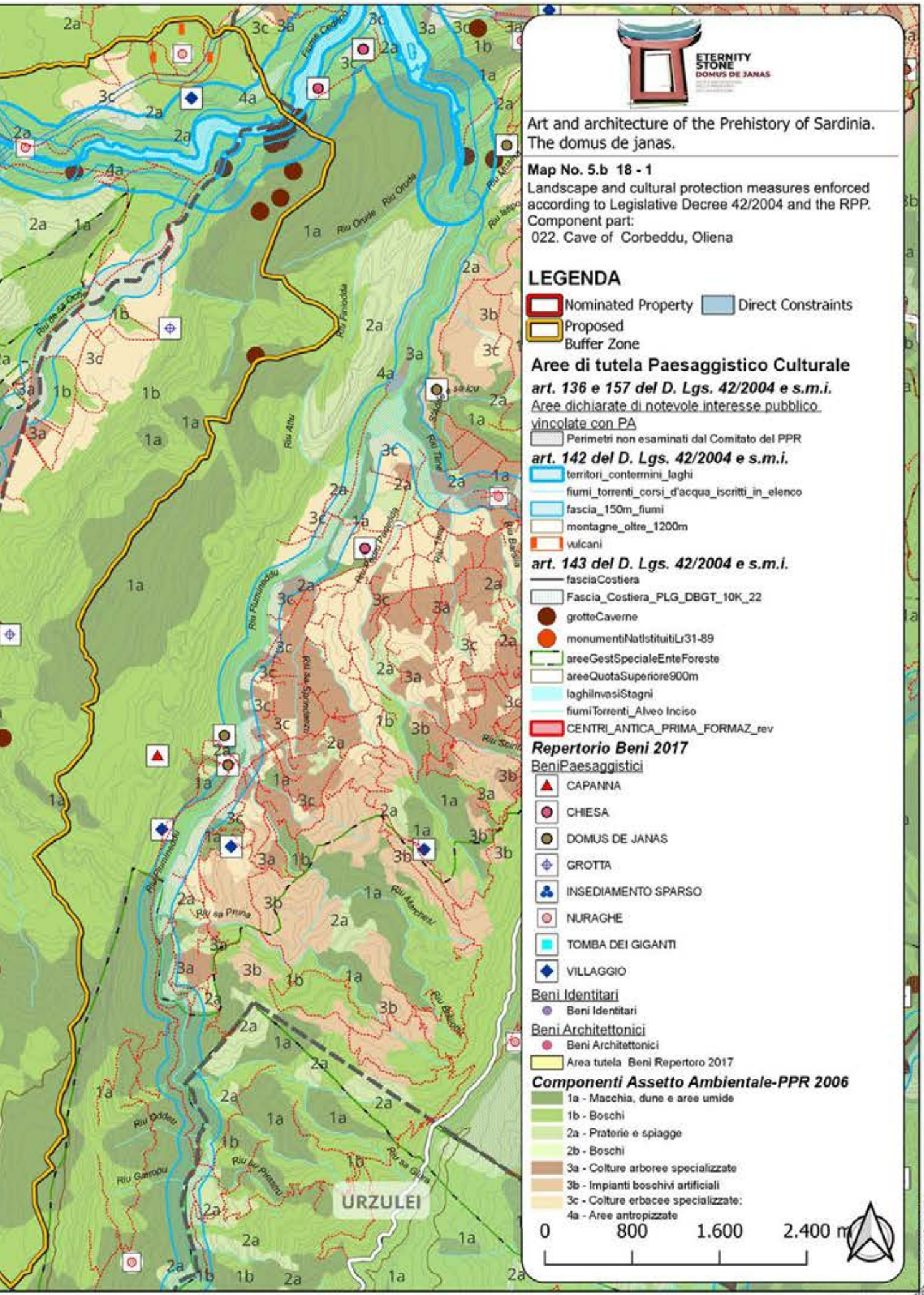
Componenti Assetto Ambientale-PPR 2006

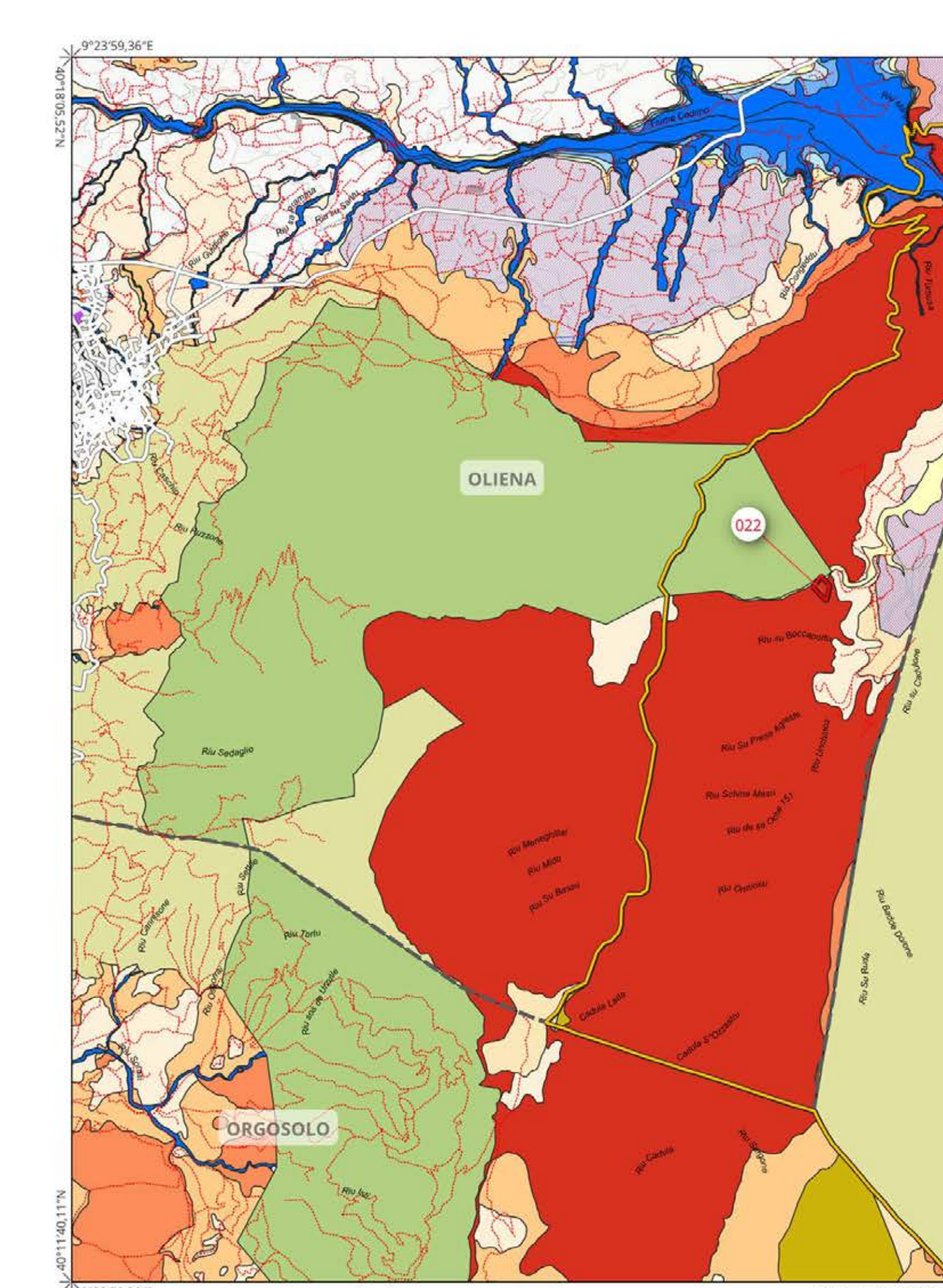
1a - Macchia, dune e aree umide
1b - Boschi
2a - Praterie e spiagge
2b - Boschi
3a - Colture arboree specializzate
3b - Impianti boschivi artificiali
3c - Colture erbacee specializzate;
4a - Aree antropizzate


9°16'19,66"E
40°13'04,72"N
40°11'14,95"N
9°16'19,66"E
Mamoiada
SA 'E CUBEDDU
M. ORRUTU
Riu Loddas
SA FUNTANA DE SA PERDA
C.va Lapias
TUREDDU
MAMOIADA
M. S'URMU
PULENARIA
Riu Bacciaru
FITTILOGHE
ISTEVENE
M. CONCA DE BACHIS
021
VIRGAS
VURVARI
SU PESSICHE
TALAS TORRAI
91SP_22
91SP_30
(Coordinate vertici EPSG 6707

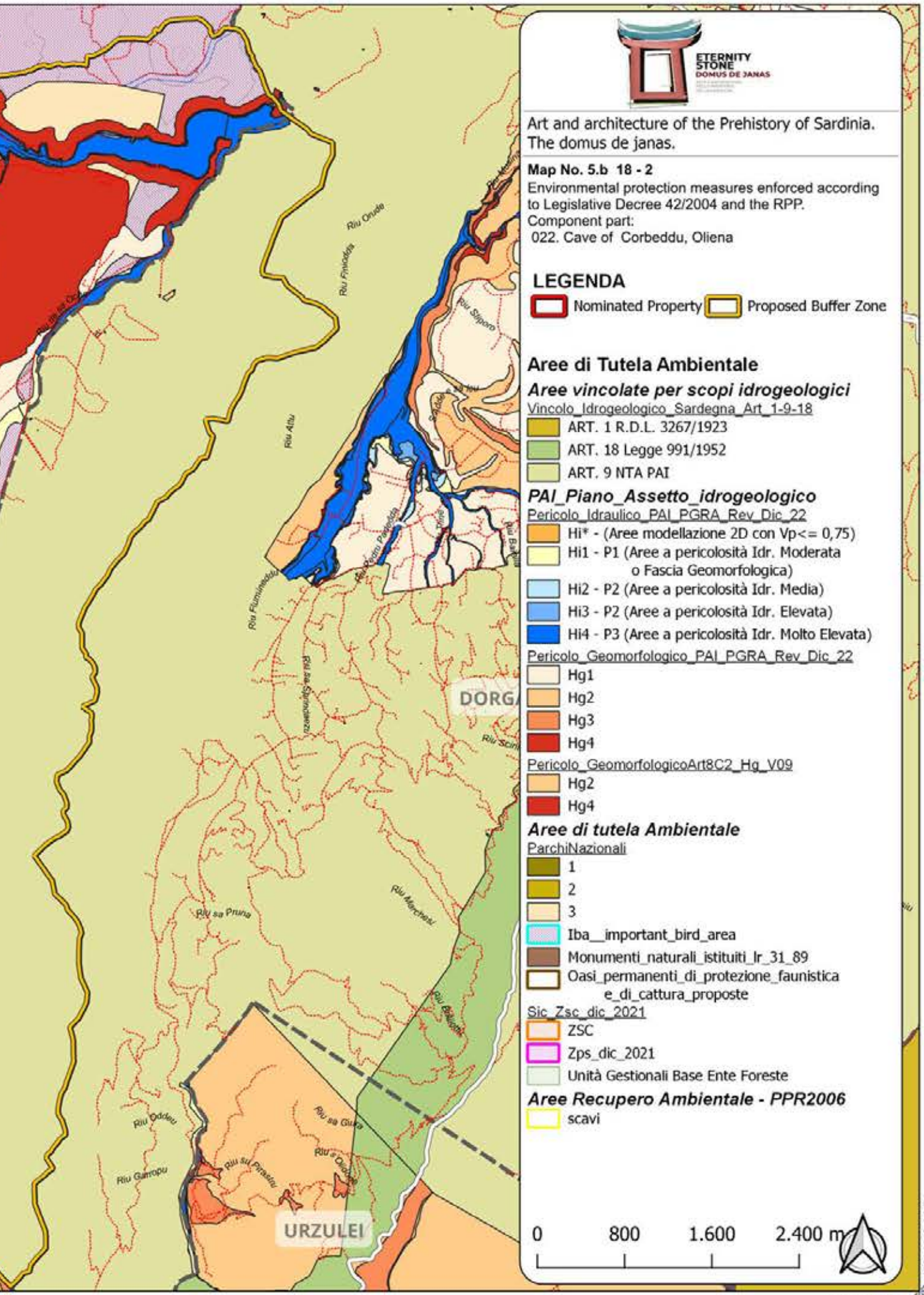

DIGHIDILISI
SOS VIDICHINGIOS
DUDULI
Riu Sas Baddes
PIDUCRU
TTURIGU
ISCHIRZIADORGIU
Riu Su Traghiniu Bixeonte
Riu De S'Ortu
SA MATTA
M. GHESPARGIU
UMIDA PEDDES
SAS BADDES
GURUSUNELE
Riu Perfuns
Riu Lasin
SA RADICHINA
FROCHEDDU
M. PERTU
ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 5.b 17 - 2
Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
021. Necropolis of Istevéne, Mamoiada
LEGENDA
Nominated Property
Proposed Buffer Zone
Aree di Tutela Ambientale
Aree vincolate per scopi idrogeologici
Vincolo_Idrogeologico_Sardegna_Art_1-9-18
ART. 1 R.D.L. 3267/1923
ART. 9 NTA PAI
PAI_Piano_Assetto_idrogeologico
Pericolo_Idraulico_PAI_PGRA_Rev_Dic_22
Hi1 - P1 (Aree a pericolosità Idr. Moderata o Fascia Geomorfologica)
Hi2 - P2 (Aree a pericolosità Idr. Media)
Hi3 - P2 (Aree a pericolosità Idr. Elevata)
Hi4 - P3 (Aree a pericolosità Idr. Molto Elevata)
Pericolo_Geomorfologico_PAI_PGRA_Rev_Dic_22
Hg1
Hg2
Hg3
Aree Recupero Ambientale - PPR2006
scavi
0
200
400
600 m
40°11'14,95"N
9°19'43,32"E

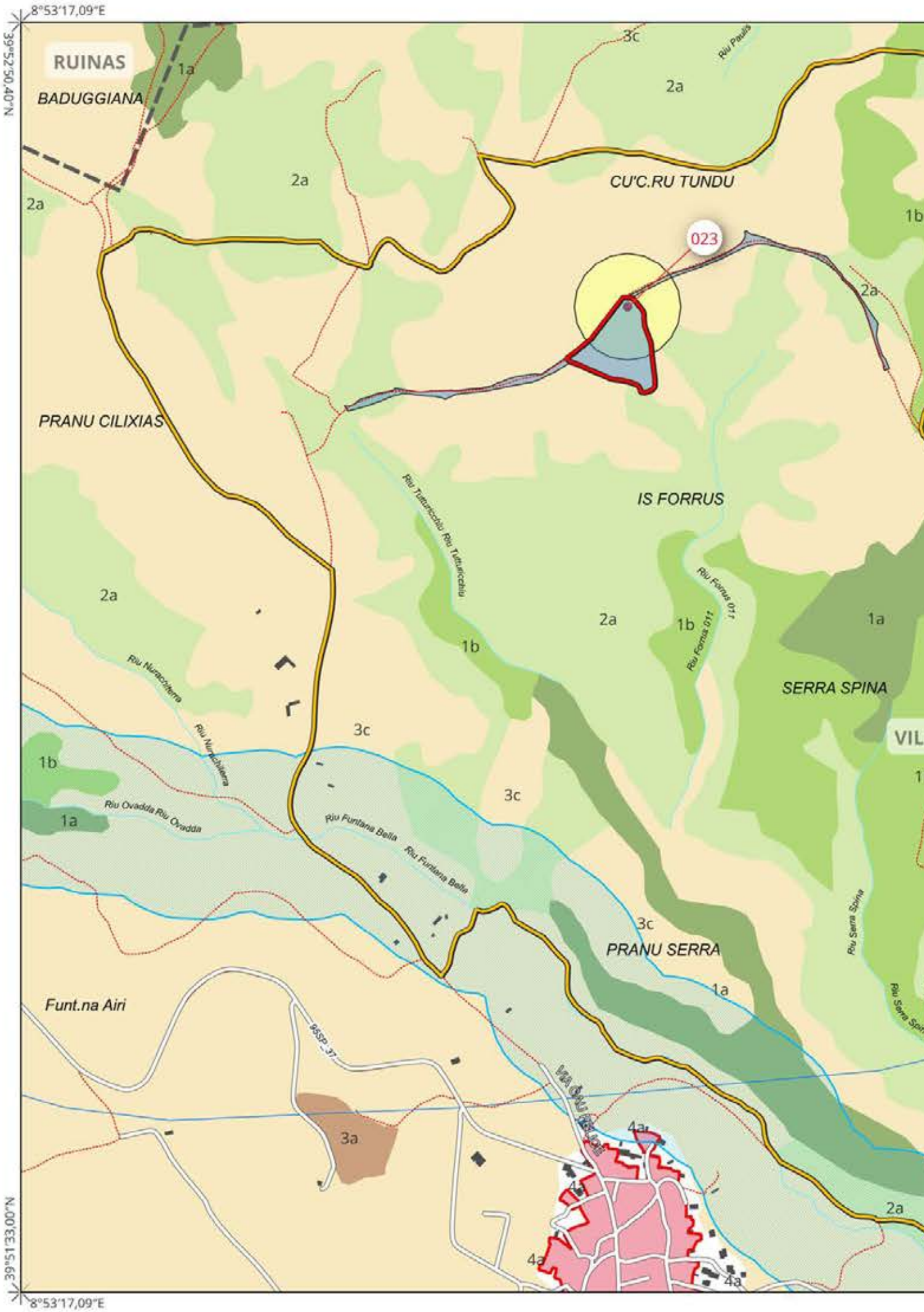

9°23'59,36"E
40°18'05,52"N
OLIENA
ORGOSOLO
022
Riu su Boccaportu
Riu Su Presa Agnese
Riu Schina Mesu
Riu de sa Oche 151
Riu Ormiosu
Riu Mido
Riu Sa Basau
Riu Meneghittai
Riu Sedda
Riu Cumpione
Riu Sette
Riu Ostorai
Riu Tortu
Riu sos de Urzadie
Riu Sorasi
Riu Puzzone
Riu Cadula
Riu Serpone
Riu Su Ruste
Riu Biadde Durone
Riu Cadula Lada
Riu Cadula S'Ozzastru
Riu Cadula
Riu Serpone
40°11'40,11"N
9°23'59,36"E

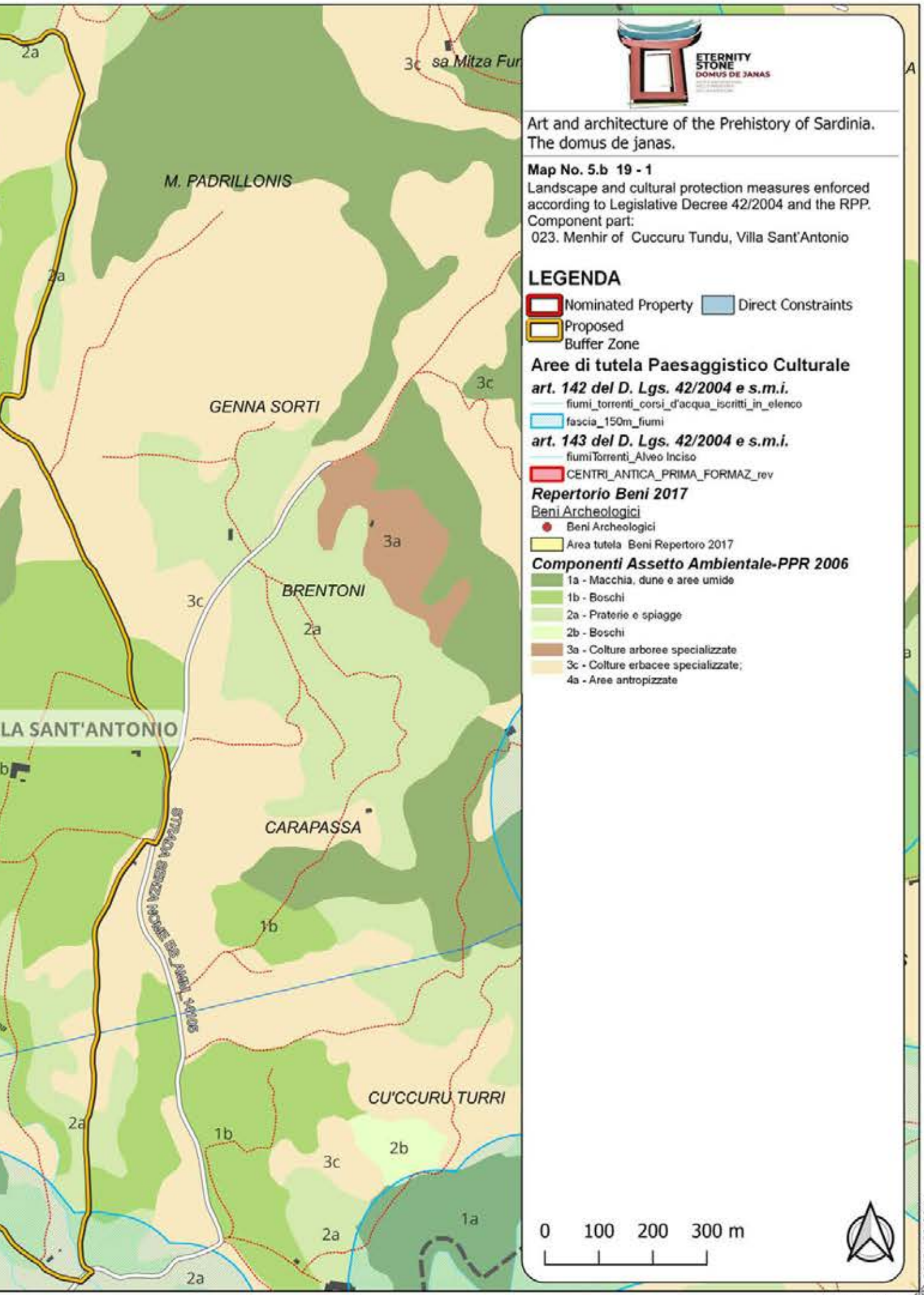

ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 5.b 18 - 1
Landscape and cultural protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
022. Cave of Corbeddu, Oliena
LEGENDA
Nominated Property
Direct Constraints
Proposed
Buffer Zone
Aree di tutela Paesaggistico Culturale
art. 136 e 157 del D. Lgs. 42/2004 e s.m.i.
Aree dichiarate di notevole interesse pubblico
vincolate con PA
Perimetri non esaminati dal Comitato del PPR
art. 142 del D. Lgs. 42/2004 e s.m.i.
territori_contermini_laghi
fiumi_torrenti_corsi_d'acqua_iscritti_in_elenco
fascia_150m_fiumi
montagne_oltre_1200m
vulcani
art. 143 del D. Lgs. 42/2004 e s.m.i.
fasciaCostiera
Fascia_Costiera_PLG_DBGT_10K_22
grotteCaverne
monumentiNatIstituitiLr31-89
areeGestSpecialeEnteForeste
areeQuotaSuperiore900m
laghiInvasiStagni
fiumiTorrenti_Alveo Inciso
CENTRI_ANTICA_PRIMA_FORMAZ_rev
Repertorio Beni 2017
BeniPaesaggistici
CAPANNA
CHIESA
DOMUS DE JANAS
GROTTA
INSEDIAMENTO SPARSO
NURAGHE
TOMBA DEI GIGANTI
VILLAGGIO
Beni Identitari
Beni Identitari
Beni Architettonici
Beni Architettonici
Area tutela Beni Repertoro 2017
Componenti Assetto Ambientale-PPR 2006
1a - Macchia, dune e aree umide
1b - Boschi
2a - Praterie e spiagge
2b - Boschi
3a - Colture arboree specializzate
3b - Impianti boschivi artificiali
3c - Colture erbacee specializzate:
4a - Aree antropizzate
0
800
1.600
2.400 m
URZULEI
40°11'40,11"N
9°35'53,74"E



(Coordinate vertici EPSG 6707


ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 5.b 18 - 2
Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
022. Cave of Corbeddu, Oliena
LEGENDA
Nominated Property
Proposed Buffer Zone
Aree di Tutela Ambientale
Aree vincolate per scopi idrogeologici
Vincolo_Idrogeologico_Sardegna_Art_1-9-18
ART. 1 R.D.L. 3267/1923
ART. 18 Legge 991/1952
ART. 9 NTA PAI
PAI_Piano_Assetto_idrogeologico
Pericolo_Idraulico_PAI_PGRA_Rev_Dic_22
Hi* - (Aree modellazione 2D con Vp<= 0,75)
Hi1 - P1 (Aree a pericolosità Idr. Moderata o Fascia Geomorfologica)
Hi2 - P2 (Aree a pericolosità Idr. Media)
Hi3 - P2 (Aree a pericolosità Idr. Elevata)
Hi4 - P3 (Aree a pericolosità Idr. Molto Elevata)
Pericolo_Geomorfologico_PAI_PGRA_Rev_Dic_22
Hg1
Hg2
Hg3
Hg4
Pericolo_GeomorfologicoArt8C2_Hg_V09
Hg2
Hg4
Aree di tutela Ambientale
ParchiNazionali
1
2
3
Iba__important_bird_area
Monumenti_naturali_istituiti_lr_31_89
Oasi_permanenti_di_protezione_faunistica e_di_cattura_proposte
Sic_Zsc_dic_2021
ZSC
Zps_dic_2021
Unità Gestionali Base Ente Foreste
Aree Recupero Ambientale - PPR2006
scavi
0
800
1.600
2.400 m
DORGA
URZULEI
Riu Onude
Riu Fiuloddu
Riu Siloro
Riu Altu
Riu Fluminedu
Riu sa Spinosa
Riu Scini
Riu Marchesi
Riu sa Pruna
Riu Oddeu
Riu Gurropu
Riu su Pirastru
Riu sa Giua
Riu s Oddeis
40°11'40,11"N
9°35'53,74"E


8°53'17,09"E
39°52'50,40"N
RUINAS
BADUGGIANA
1a
2a
3c
Riu Paulis
CU'C.RU TUNDU
1b
023
PRANU CILIXIAS
IS FORRUS
Riu Tuttunicchiu
Riu Tuttunicchiu Riu Tuttunicchiu
Riu Forrus 011
SERRA SPINA
Riu Nurpchilerra
Riu Ovadda Riu Ovadda
Riu Funtana Bella
Riu Funtana Bella
PRANU SERRA
Riu Serra Spina
Funt.na Airi
95SP_37
3a
4a
4
39°51'33,00"N
8°53'17,09"E



ETERNITY STONE
DOMUS DE JANAS

Art and architecture of the Prehistory of Sardinia.
The domus de janas.

Map No. 5.b 19 - 1

Landscape and cultural protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
023. Menhir of Cuccuru Tundu, Villa Sant'Antonio

LEGENDA

Nominated Property
Direct Constraints
Proposed Buffer Zone

Aree di tutela Paesaggistico Culturale

art. 142 del D. Lgs. 42/2004 e s.m.i.

fiumi_torrenti_corsi_d'acqua_iscritti_in_elenco
fascia_150m_fiumi

art. 143 del D. Lgs. 42/2004 e s.m.i.

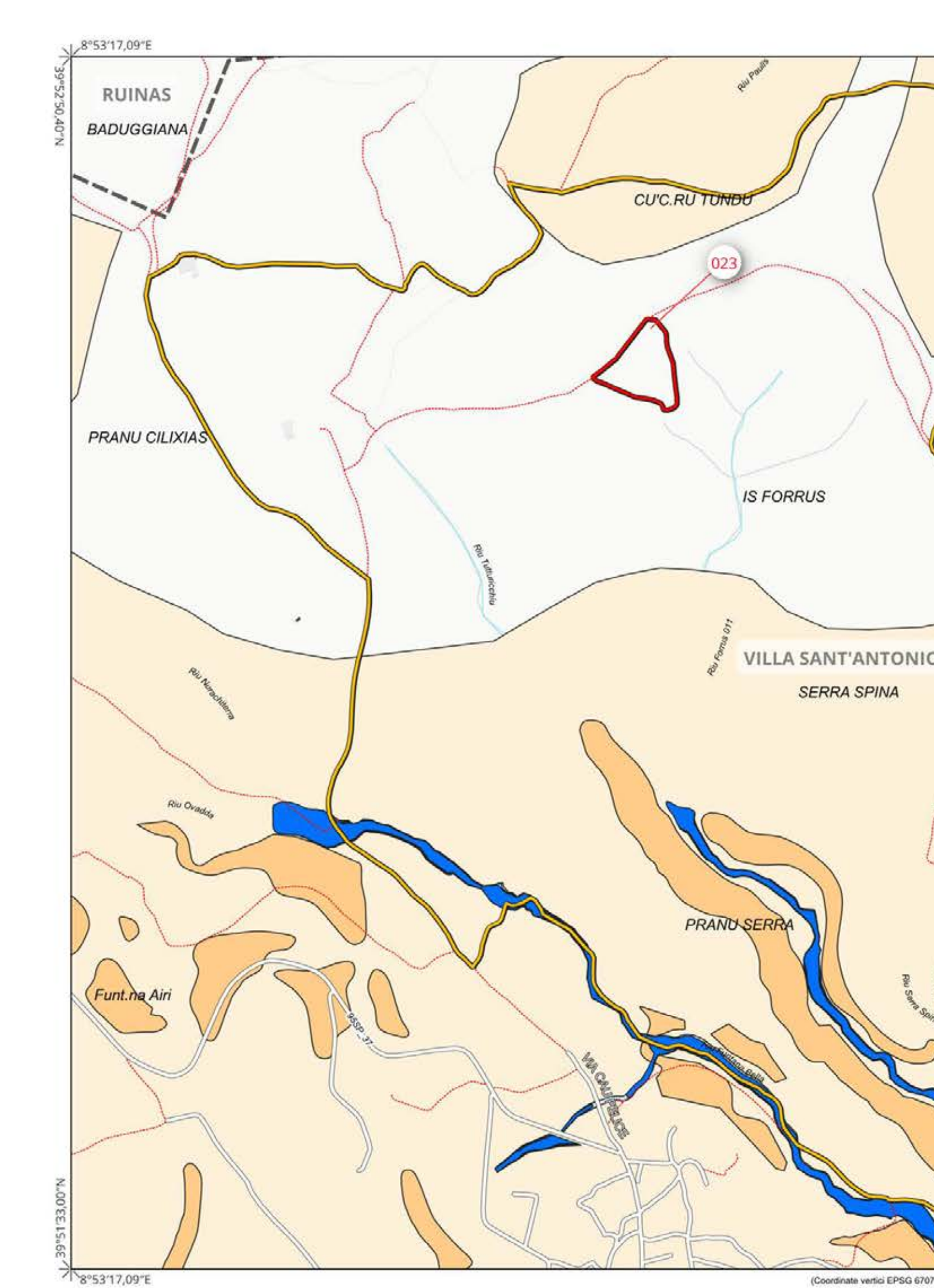
fiumiTorrenti_Alveo Inciso
CENTRI_ANTICA_PRIMA_FORMAZ_rev

Repertorio Beni 2017

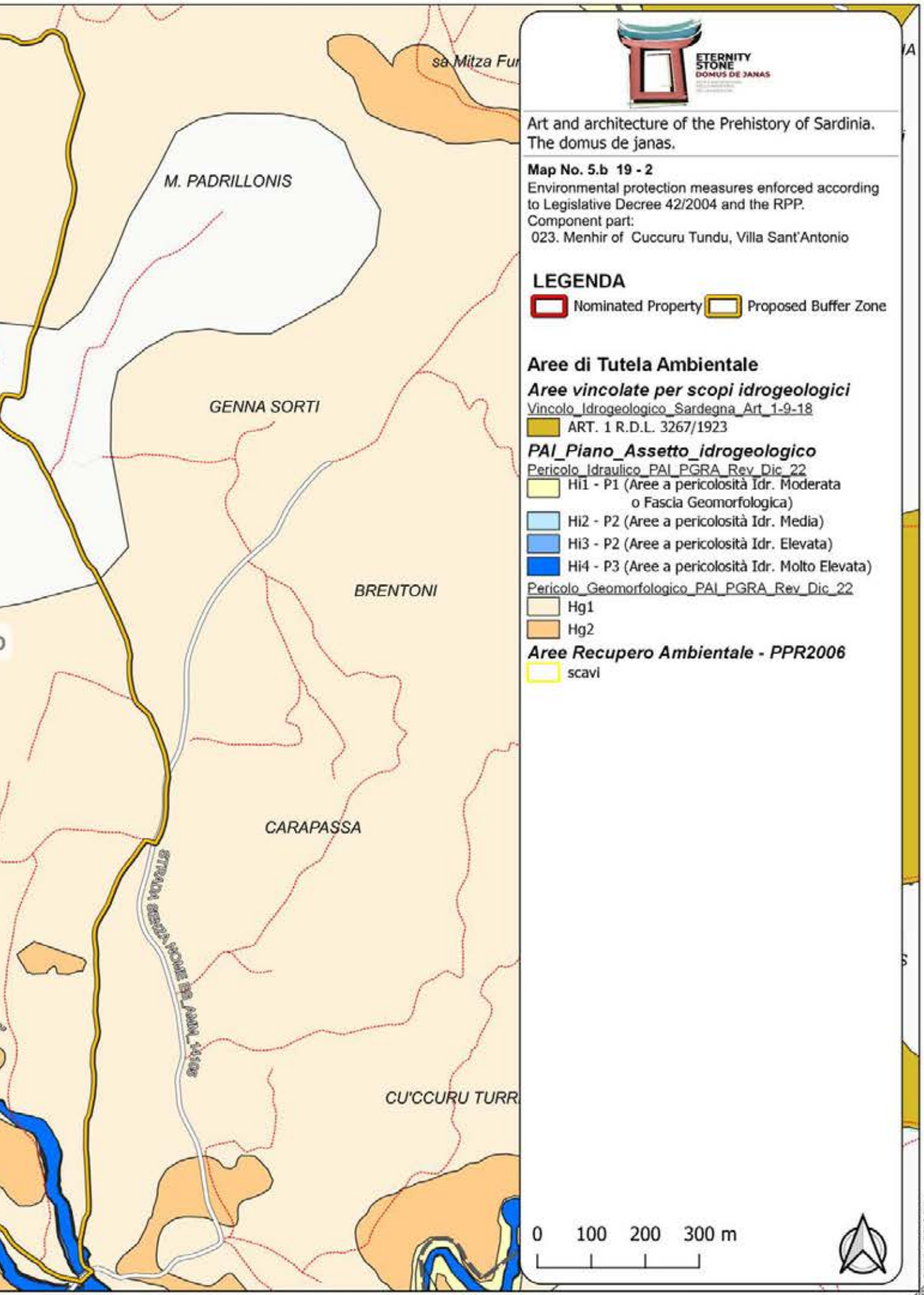
Beni Archeologici
Beni Archeologici
Area tutela Beni Repertoro 2017

Componenti Assetto Ambientale-PPR 2006

1a - Macchia, dune e aree umide
1b - Boschi
2a - Praterie e spiagge
2b - Boschi
3a - Colture arboree specializzate
3c - Colture erbacee specializzate;
4a - Aree antropizzate



(Coordinate vertici EPSG 6707



ETERNITY STONE
DOMUS DE JANAS

Art and architecture of the Prehistory of Sardinia.
The domus de janas.

Map No. 5.b 19 - 2

Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
023. Menhir of Cuccuru Tundu, Villa Sant'Antonio

LEGENDA

Nominated Property
Proposed Buffer Zone

Aree di Tutela Ambientale

Aree vincolate per scopi idrogeologici

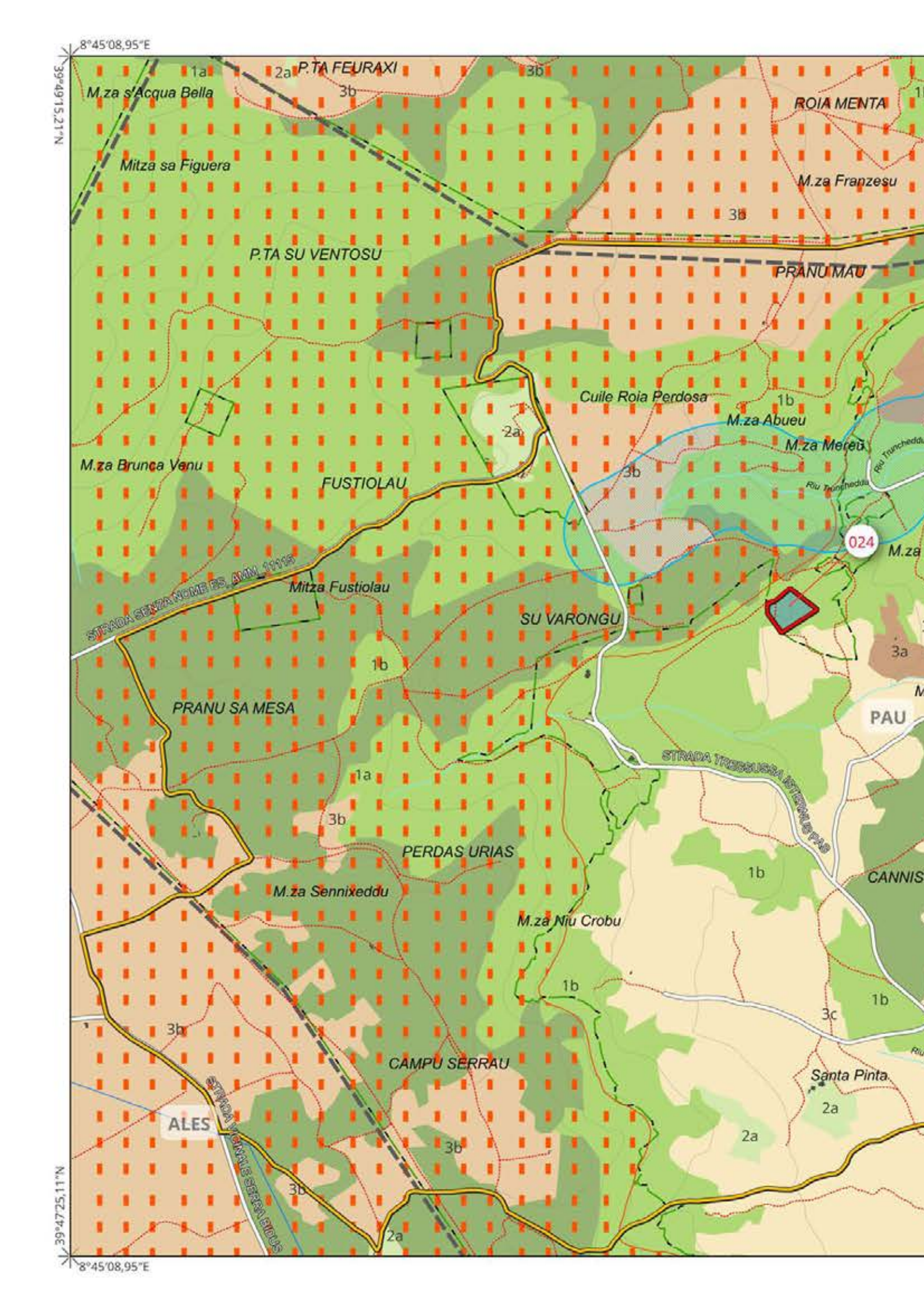
Vincolo_Idrogeologico_Sardegna_Art_1-9-18
- ART. 1 R.D.L. 3267/1923

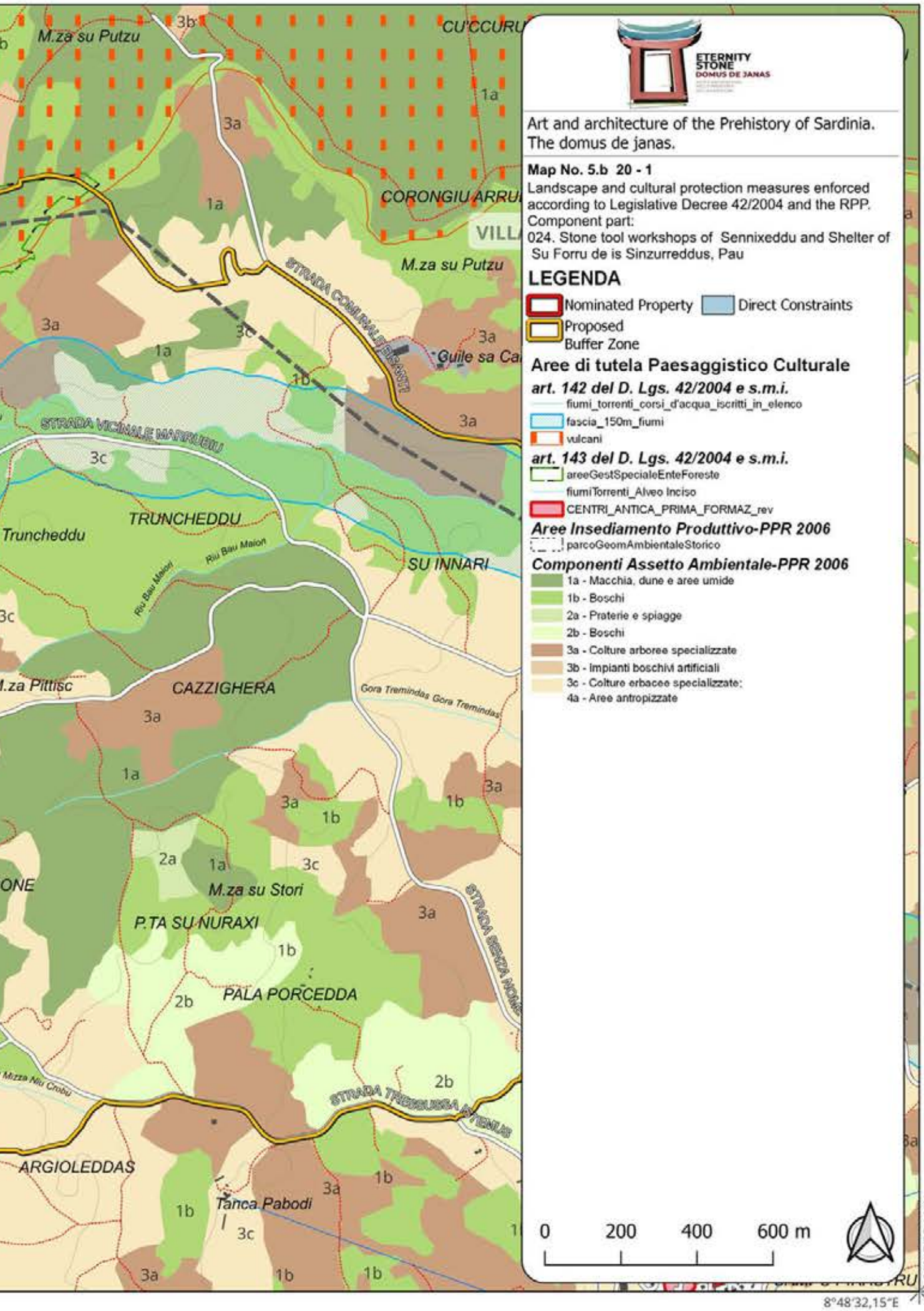
PAI_Piano_Assetto_idrogeologico

Pericolo_Idraulico_PAI_PGRA_Rev_Dic_22
- Hi1 - P1 (Aree a pericolosità Idr. Moderata o Fascia Geomorfologica)
- Hi2 - P2 (Aree a pericolosità Idr. Media)
- Hi3 - P2 (Aree a pericolosità Idr. Elevata)
- Hi4 - P3 (Aree a pericolosità Idr. Molto Elevata)

Pericolo_Geomorfologico_PAI_PGRA_Rev_Dic_22
- Hg1
- Hg2

Aree Recupero Ambientale - PPR2006
- scavi


8°45'08,95"E
39°49'15,21"N
39°47'25,11"N
8°45'08,95"E
P.TA FEURAXI
M.za s'Acqua Bella
ROIA MENTA
Mitza sa Figuera
M.za Franzesu
P.TA SU VENTOSU
PRANU MAU
Cuile Roia Perdosa
M.za Abueu
M.za Mereu
M.za Brunca Vanu
FUSTIOLAU
Riu Trunchedda
024
Mitza Fustiolau
SU VARONGU
PRANU SA MESA
PAU
PERDAS URIAS
M.za Sennixeddu
M.za Niu Crobu
CANNIS
CAMPU SERRAU
Santa Pinta
ALES
1a
2a
3b
1b
3a
3c



ETERNITY
STONE
DOMUS DE JANAS

Art and architecture of the Prehistory of Sardinia.
The domus de janas.

Map No. 5.b 20 - 1

Landscape and cultural protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
024. Stone tool workshops of Sennixeddu and Shelter of Su Forru de is Sinzurreddus, Pau

LEGENDA

Nominated Property
Direct Constraints
Proposed Buffer Zone

Aree di tutela Paesaggistico Culturale

art. 142 del D. Lgs. 42/2004 e s.m.i.

- fiumi_torrenti_corsi_d'acqua_iscritti_in_elenco
- fascia_150m_fiumi
- vulcani

art. 143 del D. Lgs. 42/2004 e s.m.i.

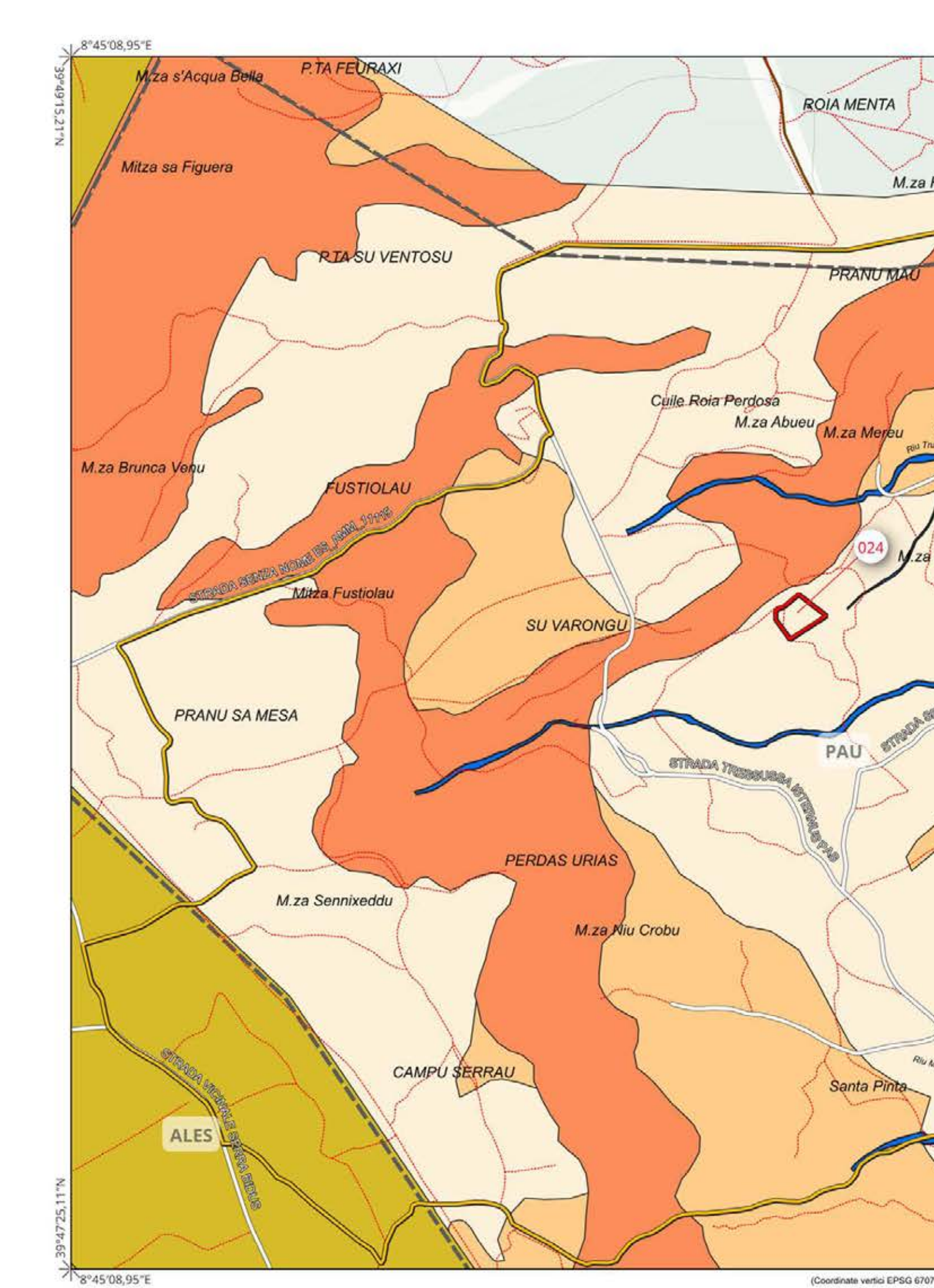
- areeGestSpecialeEnteForeste
- fiumiTorrenti_Alveo Inciso
- CENTRI_ANTICA_PRIMA_FORMAZ_rev

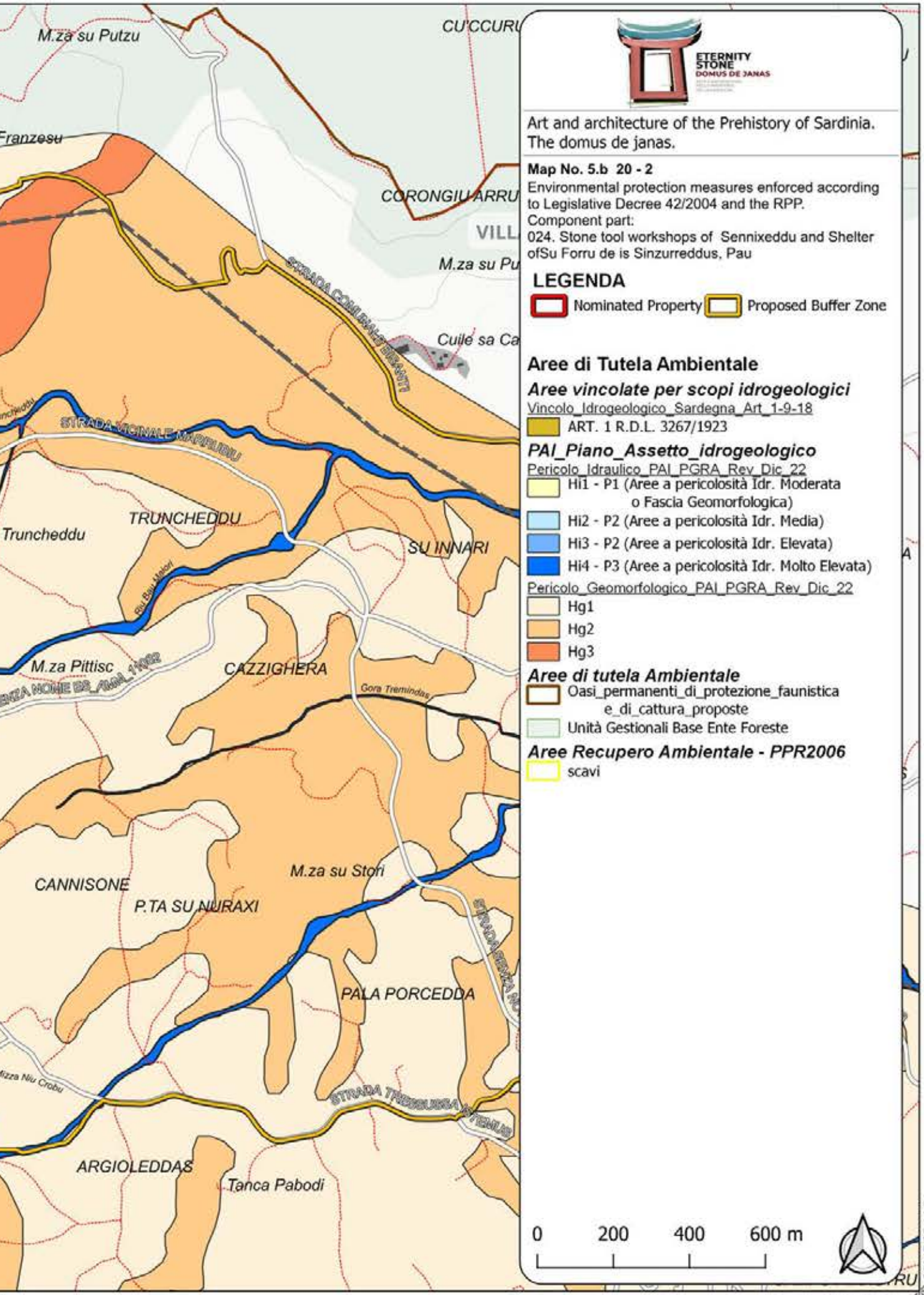
Aree Insediamento Produttivo-PPR 2006

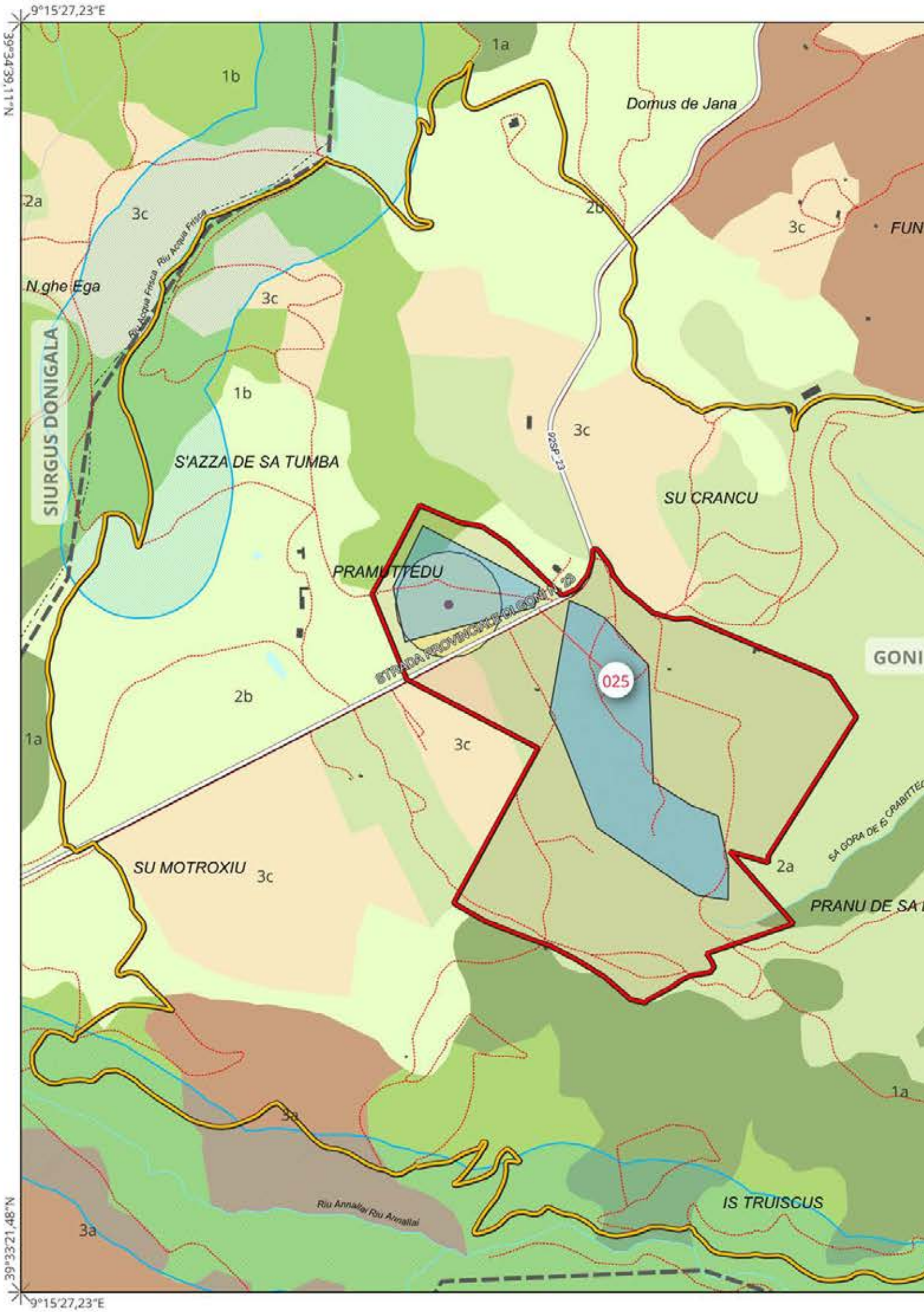
- parcoGeomAmbientaleStorico

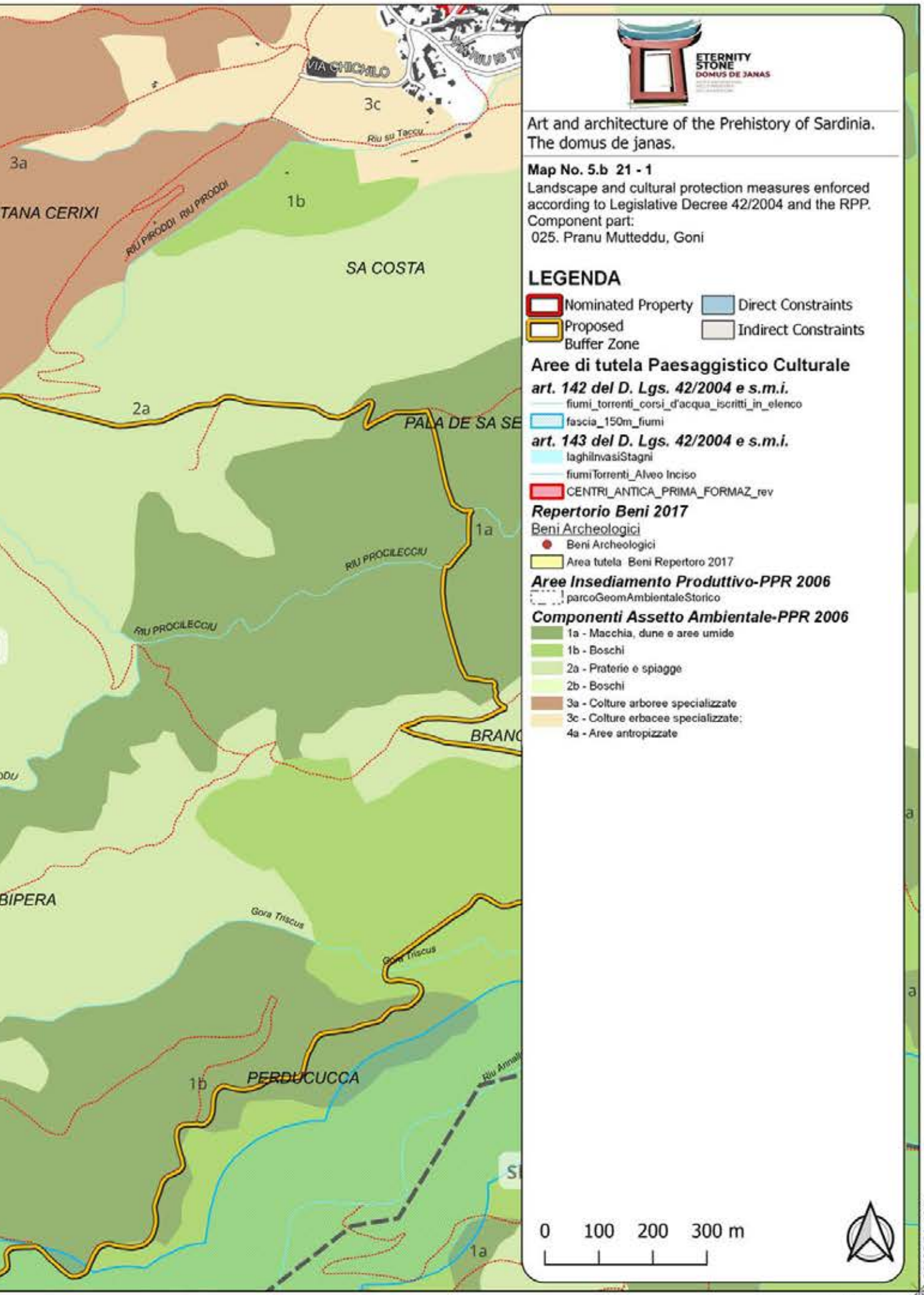
Componenti Assetto Ambientale-PPR 2006

- 1a - Macchia, dune e aree umide
- 1b - Boschi
- 2a - Praterie e spiagge
- 2b - Boschi
- 3a - Colture arboree specializzate
- 3b - Impianti boschivi artificiali
- 3c - Colture erbacee specializzate;
- 4a - Aree antropizzate


8°45'08,95"E
39°49'15,21"N
39°47'25,11"N
8°45'08,95"E
M.za s'Acqua Bella
P.TA FEURAXI
ROIA MENTA
Mitza sa Figuera
P.TA SU VENTOSU
PRANU MAU
Cuile Roia Perdosa
M.za Abueu
M.za Mereu
M.za Brunca Venu
FUSTIOLAU
STRADA SENZA NOME DS_AMM_J1115
024
Mitza Fustiolau
SU VARONGU
PRANU SA MESA
PAU
PERDAS URIAS
M.za Sennixeddu
M.za Niu Crobu
CAMPU SERRAU
Santa Pinta
ALES
(Coordinate vertici EPSG 6707


M.za su Putzu
CU'CCURU
Franzesu
CORONGIU ARRU
VILL
M.za su Pu
Cuile sa Ca
STRADA COMUNALE MAPPURIDDU
TRUNCHEDDU
Truncheddu
SU INNARI
M.za Pittisc
CAZZIGHERA
Gora Tremindas
CANNISONE
M.za su Stori
P.TA SU NURAXI
PALA PORCEDDA
STRADA TRESNURAGHES
ARGIOLEDDAS
Tanca Pabodi
ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 5.b 20 - 2
Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
024. Stone tool workshops of Sennixeddu and Shelter ofSu Forru de is Sinzurreddus, Pau
LEGENDA
Nominated Property
Proposed Buffer Zone
Aree di Tutela Ambientale
Aree vincolate per scopi idrogeologici
Vincolo_Idrogeologico_Sardegna_Art_1-9-18
ART. 1 R.D.L. 3267/1923
PAI_Piano_Assetto_idrogeologico
Pericolo_Idraulico_PAI_PGRA_Rev_Dic_22
Hi1 - P1 (Aree a pericolosità Idr. Moderata o Fascia Geomorfologica)
Hi2 - P2 (Aree a pericolosità Idr. Media)
Hi3 - P2 (Aree a pericolosità Idr. Elevata)
Hi4 - P3 (Aree a pericolosità Idr. Molto Elevata)
Pericolo_Geomorfologico_PAI_PGRA_Rev_Dic_22
Hg1
Hg2
Hg3
Aree di tutela Ambientale
Oasi_permanenti_di_protezione_faunistica e_di_cattura_proposte
Unità Gestionali Base Ente Foreste
Aree Recupero Ambientale - PPR2006
scavi
0
200
400
600 m
39°47'25,11"N
8°48'32,15"E


9°15'27,23"E
39°34'39,11"N
39°33'21,48"N
9°15'27,23"E
1a
1b
2a
2b
3a
3c
Domus de Jana
FUN
N.ghe Ega
Riu Acqua Frisca
SIURGUS DONIGALA
S'AZZA DE SA TUMBA
SU CRANCU
PRAMUTTEDU
025
GONI
SU MOTROXIU
PRANU DE SA
IS TRUISCUS
Riu Annalai Riu Arenatai



ETERNITY STONE
DOMUS DE JANAS

Art and architecture of the Prehistory of Sardinia.
The domus de janas.

Map No. 5.b 21 - 1

Landscape and cultural protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
025. Pranu Mutteddu, Goni

LEGENDA

- Nominated Property
- Proposed Buffer Zone
- Direct Constraints
- Indirect Constraints

Aree di tutela Paesaggistico Culturale

art. 142 del D. Lgs. 42/2004 e s.m.i.

- fiumi_torrenti_corsi_d'acqua_iscritti_in_elenco
- fascia_150m_fiumi

art. 143 del D. Lgs. 42/2004 e s.m.i.

- laghiInvasiStagni
- fiumiTorrenti_Alveo Inciso
- CENTRI_ANTICA_PRIMA_FORMAZ_rev

Repertorio Beni 2017

Beni Archeologici

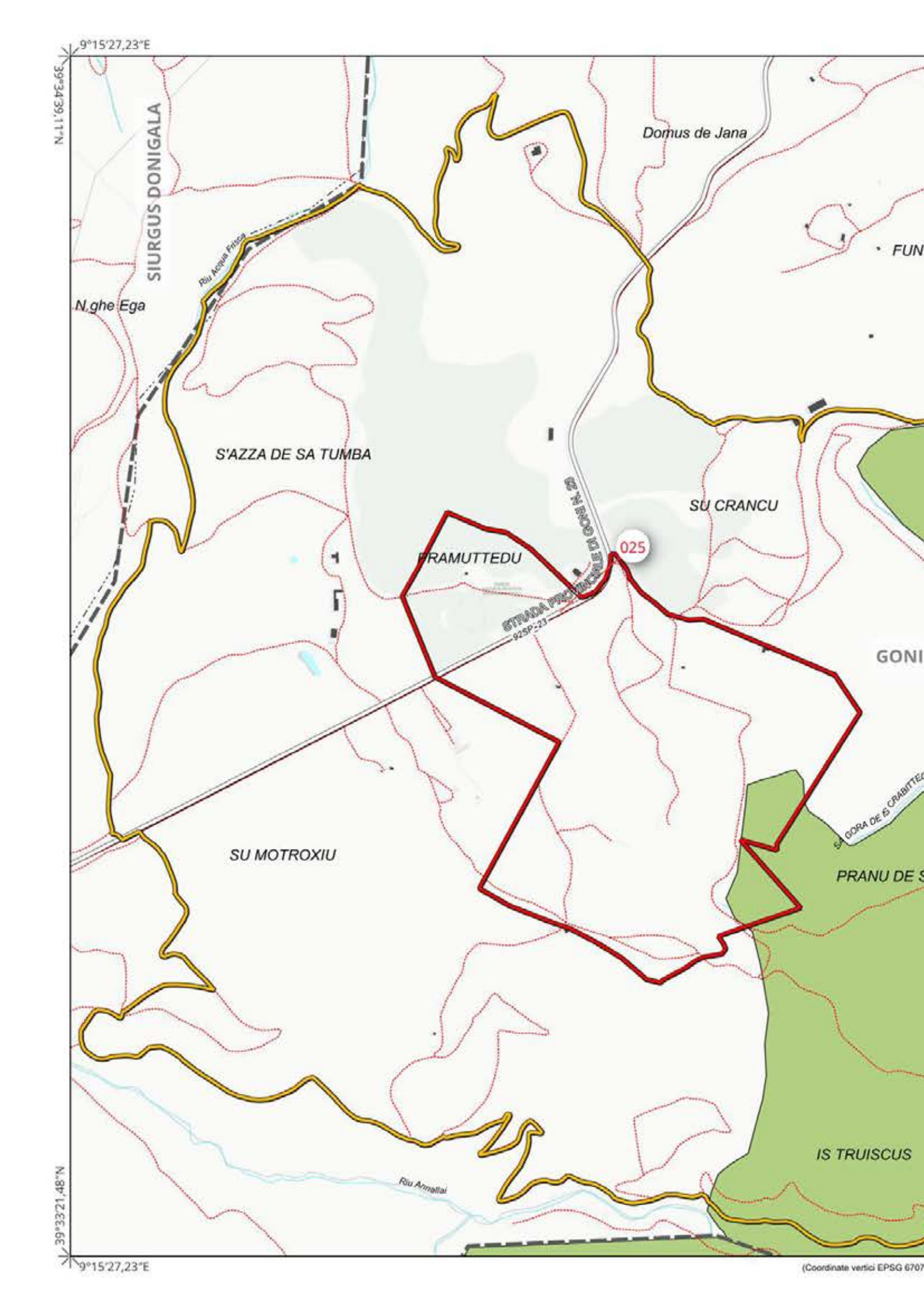
- Beni Archeologici
- Area tutela Beni Repertoro 2017

Aree Insediamento Produttivo-PPR 2006

- parcoGeomAmbientaleStorico

Componenti Assetto Ambientale-PPR 2006

- 1a - Macchia, dune e aree umide
- 1b - Boschi
- 2a - Praterie e spiagge
- 2b - Boschi
- 3a - Colture arboree specializzate
- 3c - Colture erbacee specializzate;
- 4a - Aree antropizzate



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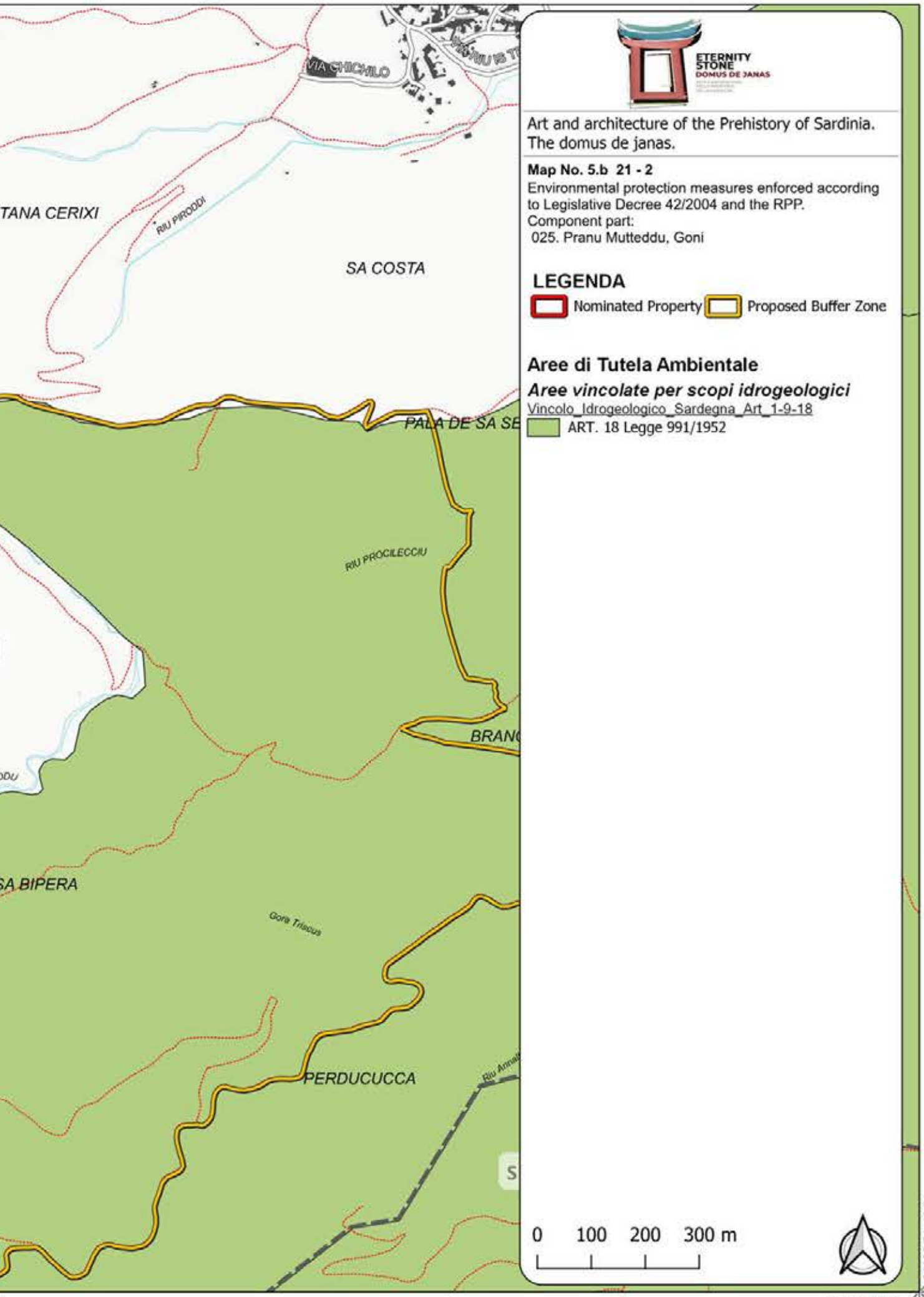


ETERNITY
STONE
DOMUS DE JANAS

Art and architecture of the Prehistory of Sardinia.
The domus de janas.

Map No. 5.b 21 - 2

Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
025. Pranu Mutteddu, Goni

LEGENDA

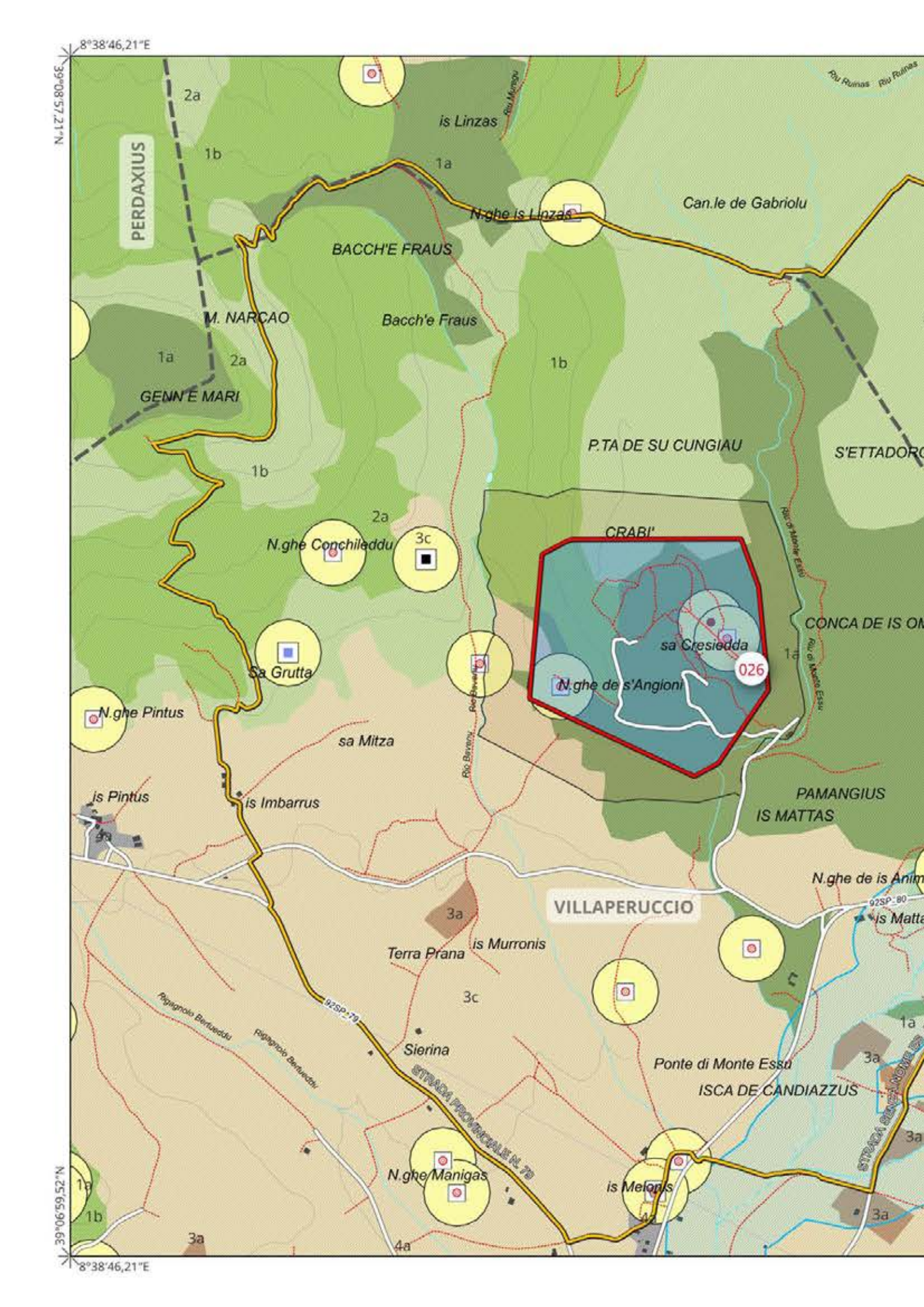
Nominated Property
Proposed Buffer Zone

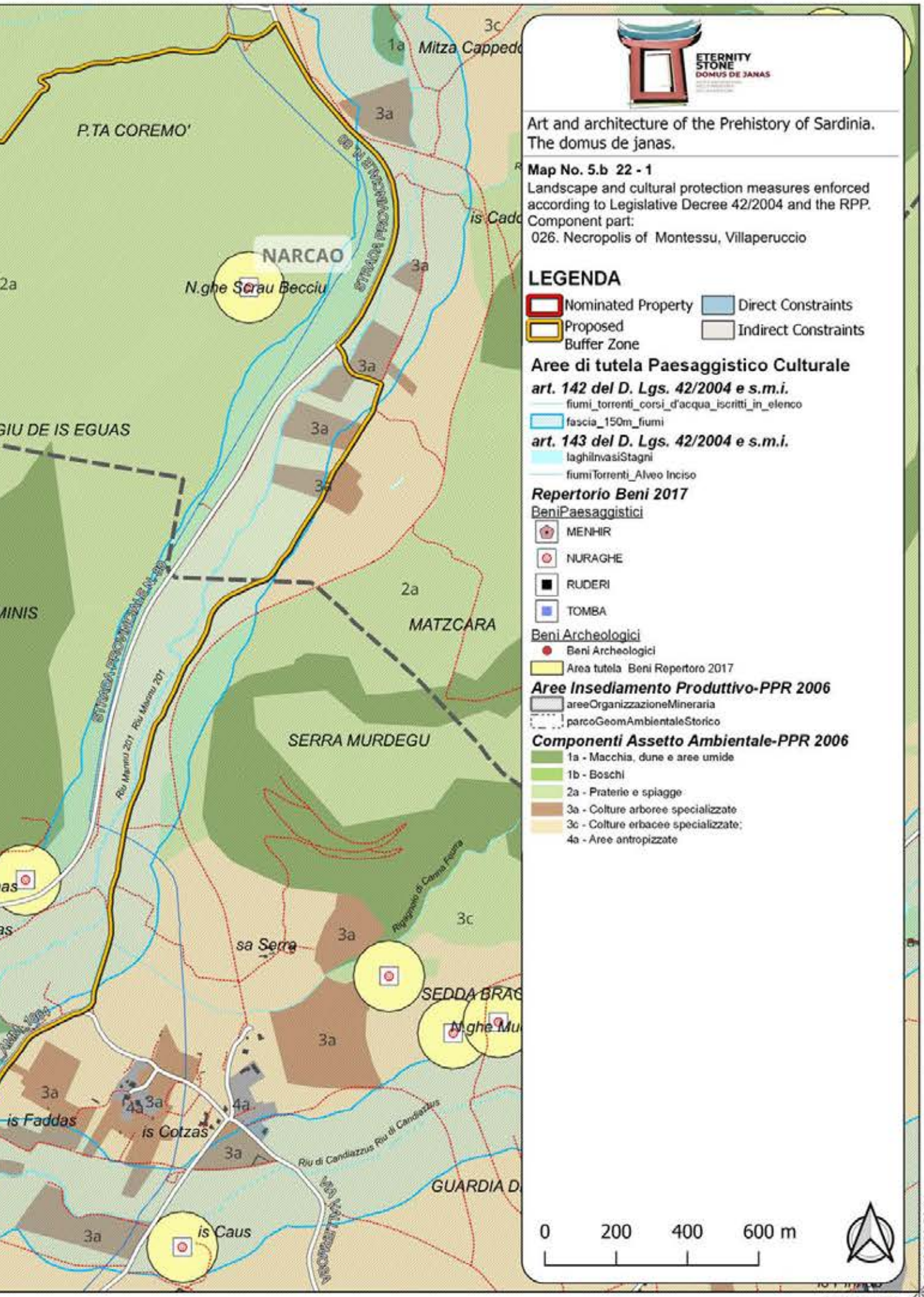
Aree di Tutela Ambientale

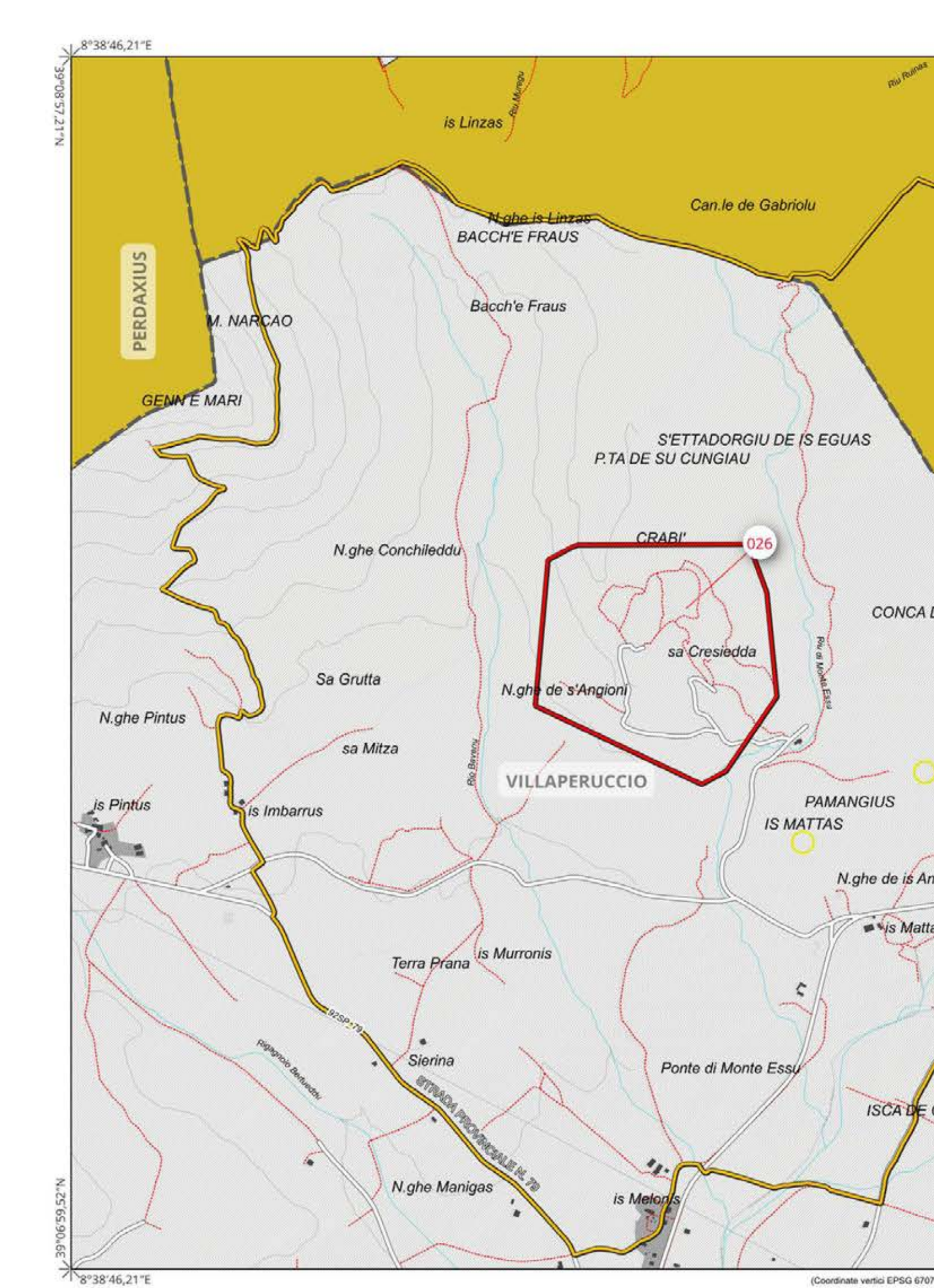
Aree vincolate per scopi idrogeologici

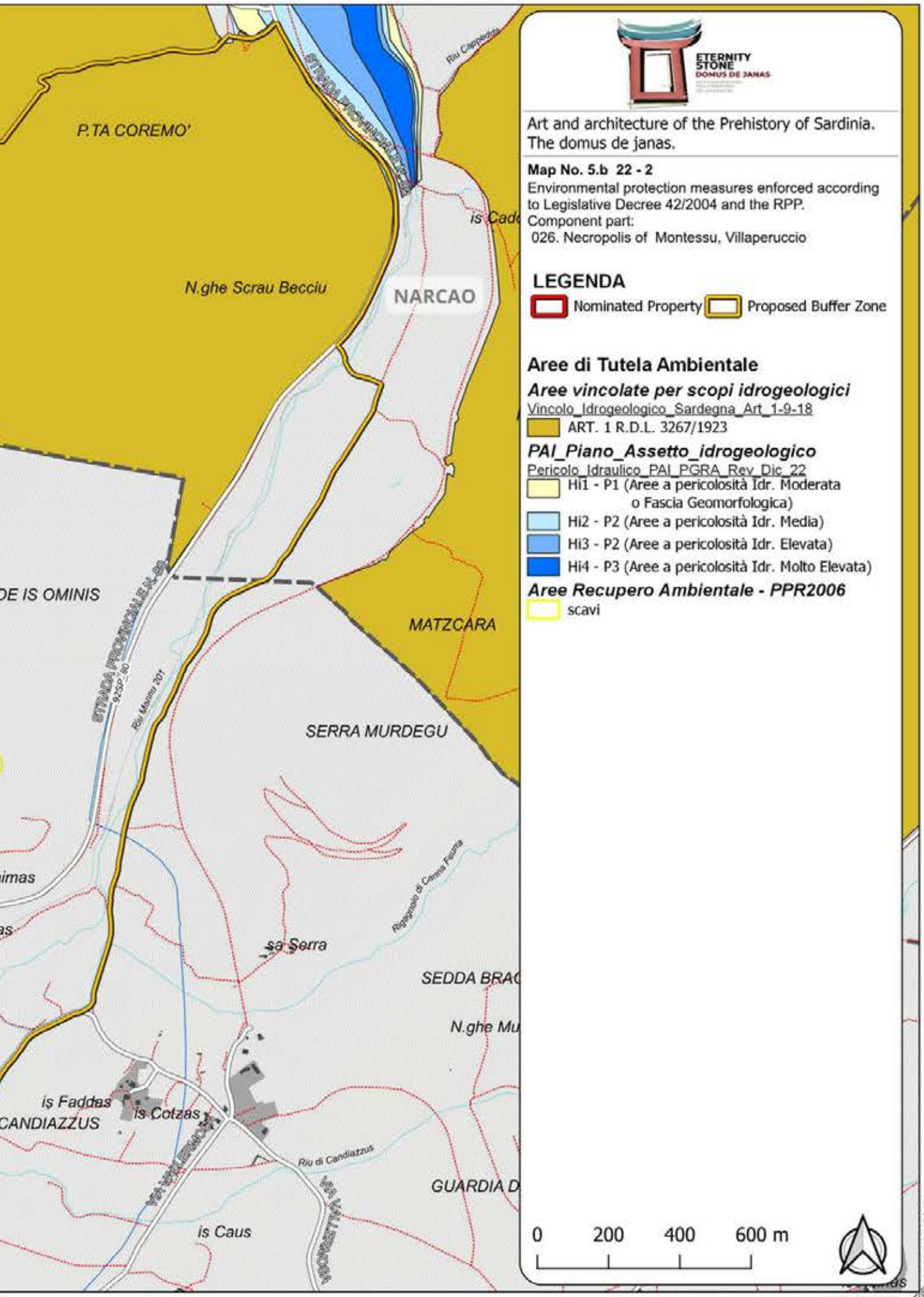
Vincolo_Idrogeologico_Sardegna_Art_1-9-18
ART. 18 Legge 991/1952

39°33'21,48"N
9°17'49,95"E


8°38'46,21"E
39°08'57,21"N
39°06'59,52"N
8°38'46,21"E
PERDAXIUS
is Linzas
Riu Mungiu
Riu Ruinas
Riu Ruinas
N.ghe is Linzas
Can.le de Gabriolu
BACCH'E FRAUS
M. NARCAO
Bacch'e Fraus
GENN'E MARI
P.TA DE SU CUNGIAU
S'ETTADORG
N.ghe Conchileddu
CRABI'
Riu d'Astorre Essu
CONCA DE IS OM
sa Cresiedda
026
Sa Grutta
N.ghe de s'Angioni
Riu Bervetu
N.ghe Pintus
sa Mitza
is Pintus
is Imbarrus
PAMANGIUS
IS MATTAS
N.ghe de is Anim
VILLAPERUCCIO
92SP 80
is Matta
Terra Prana
is Murronis
Rigagnolo Berturuddu
92SP 79
Sierina
Ponte di Monte Essu
ISCA DE CANDIAZZUS
STRADA PROVINCIALE N. 79
N.ghe Manigas
is Melonis
1a
1b
2a
3a
3c
4a


ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 5.b 22 - 1
Landscape and cultural protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
026. Necropolis of Montessu, Villaperuccio
LEGENDA
Nominated Property
Proposed Buffer Zone
Direct Constraints
Indirect Constraints
Aree di tutela Paesaggistico Culturale
art. 142 del D. Lgs. 42/2004 e s.m.i.
fiumi_torrenti_corsi_d'acqua_iscritti_in_elenco
fascia_150m_fiumi
art. 143 del D. Lgs. 42/2004 e s.m.i.
laghiInvasiStagni
fiumiTorrenti_Alveo Inciso
Repertorio Beni 2017
BeniPaesaggistici
MENHIR
NURAGHE
RUDERI
TOMBA
Beni Archeologici
Beni Archeologici
Area tutela Beni Repertoro 2017
Aree Insediamento Produttivo-PPR 2006
areeOrganizzazioneMineraria
parcoGeomAmbientaleStorico
Componenti Assetto Ambientale-PPR 2006
1a - Macchia, dune e aree umide
1b - Boschi
2a - Praterie e spiagge
3a - Colture arboree specializzate
3c - Colture erbacee specializzate;
4a - Aree antropizzate
P.TA COREMO'
NARCAO
N.ghe Scrau Becciu
MATZCARA
SERRA MURDEGU
sa Serra
is Faddas
is Cotzas
is Caus
GUARDIA D
0
200
400
600 m
39°06'59,52"N
8°42'21,16"E


8°38'46,21"E
39°08'57,21"N
39°06'59,52"N
8°38'46,21"E
is Linzas
Riu Murrigu
Riu Runtas
Can.le de Gabriolu
N.ghe is Linzas
BACCH'E FRAUS
PERDAXIUS
M. NARCAO
Bacch'e Fraus
GENN'E MARI
S'ETTADORGIU DE IS EGUAS
P.TA DE SU CUNGIAU
CRABI'
026
N.ghe Conchileddu
CONCA
sa Cresiedda
Riu di Monte Essu
Sa Grutta
N.ghe de s'Angioni
N.ghe Pintus
sa Mitza
Rio Barranu
VILLAPERUCCIO
is Pintus
is Imbarrus
PAMANGIUS
IS MATTAS
N.ghe de is An
is Matta
Terra Prana
is Murronis
92SP79
Regaginzò Bertuccioli
Sierina
Ponte di Monte Essu
STRADA PROVINCIALE N. 79
ISCA DE
N.ghe Manigas
is Melonis
(Coordinate vertici EPSG 6707


ETERNITY
STONE
DOMUS DE JANAS
Art and architecture of the Prehistory of Sardinia.
The domus de janas.
Map No. 5.b 22 - 2
Environmental protection measures enforced according to Legislative Decree 42/2004 and the RPP.
Component part:
026. Necropolis of Montessu, Villaperuccio
LEGENDA
Nominated Property
Proposed Buffer Zone
Aree di Tutela Ambientale
Aree vincolate per scopi idrogeologici
Vincolo_Idrogeologico_Sardegna_Art_1-9-18
ART. 1 R.D.L. 3267/1923
PAI_Piano_Assetto_idrogeologico
Pericolo_Idraulico_PAI_PGRA_Rev_Dic_22
Hi1 - P1 (Aree a pericolosità Idr. Moderata o Fascia Geomorfologica)
Hi2 - P2 (Aree a pericolosità Idr. Media)
Hi3 - P2 (Aree a pericolosità Idr. Elevata)
Hi4 - P3 (Aree a pericolosità Idr. Molto Elevata)
Aree Recupero Ambientale - PPR2006
scavi
P.TA COREMO'
N.ghe Scrau Becciu
NARCAO
MATZCARA
SERRA MURDEGU
sa Serra
SEDDA BRAC
N.ghe Mu
is Faddas
is Cotzas
CANDIAZZUS
is Caus
GUARDIA D
Riu Cappedda
Riu Mannu 201
Rigagnolo di Canna Fadda
Riu di Candiazzus
0 200 400 600 m
39°06'59,52"N
8°42'21,16"E

5.c - Means of implementing protective measures

With regard to the protective measures governed by the Code of Cultural Heritage and the Landscape (Legislative Decree 42/2004), they are further explained in the organizational regulations of the Ministry of Culture, divided into central and peripheral offices, including the Superintendencies, which deal with protection, and the Regional Directorates of Museums, which deal with the promotion and management of museums and national sites.
The coordination of the activities of the peripheral structures of the Ministry that are carried out on the individual regional territories is guaranteed by the Regional Secretariat, which operates in compliance with the technical specificities of the different institutes, each of which have relevant responsibilities, and within the protective guidelines issued by the central Directorates General.

Considering that the application includes sites located throughout the Region, both Sardinian ABAP Superintendencies are involved in the protection and conservation of the protected areas. Specifically, the nominated property fall within the competences of the two Superintendencies operating in Sardinia:
- the Superintendence of Archaeology, Fine Arts and Landscape for the Provinces of Sassari and Nuoro, responsible for the protection of the nominated property from number 001 to 016 and from 020 to 022;
- the Superintendence of Archaeology, Fine Arts and Landscape for the metropolitan area of Cagliari and for the Provinces of Oristano and Sud Sardegna, responsible for the protection of the nominated property areas 017-019 and 023-026.

As for the nominated property 006, the Sanctuary of Monte d 'Accodi-Sassari, being the only one on the list included in the network of museums and "places of national culture", the Regional Directorate of Sardinia Museums is responsible for its promotion. The Regional Directorates of Sardinia Museums, in accordance with the responsibilities assigned by the organizational ministerial decrees, also play an important role in collaboration with the local territory and with other non-state museums which operate in several component parts of the nominated property.
The Regional Secretariat of the Ministry of Culture for Sardinia ensures the coordination of the peripheral institutes of the region.
The Superintendencies, coordinated by the central General Directorate of Archaeology, Fine Arts and Landscape, are responsible for all the activities of protection in the territory that also include: knowledge of the archaeological, architectural, historical, artistic, ethnoanthropological and landscape heritage; cataloguing functions; the investigation of verification measures and declaration of cultural interest (restrictions); maintenance and restoration activities, as well as the authorization (with specific prescriptions) and control of actions of any kind on the protected properties; research activity on cultural and landscape heritage; the promotion of studies, research, cultural initiatives and training, also in collaboration with the Regions, universities and cultural institutions; the authorization of the loan of works and movable finds for exhibits or exhibitions; the functions of the export office.
With regard specifically to archaeological assets, the Superintendencies, pursuant to art. 88 of the Code, which reserves archaeological research to

the State, are the body responsible for carrying out excavation interventions in the territories of competence, following them directly, or even carrying out the preliminary assessments for the concessions of archaeological research and investigations, regulated by art. 89 and to be carried out by the University or other bodies that request it; the concessions are then entrusted with a specific decree by the ABAP Directorate, on the instruction of the Superintendency, which is also responsible for supervision.
The Central Institute for Archaeology (ICA) supports DG ABAP in this activity, examining and validating the scientific documents sent by the tenants, also for uploading data to the National Geoportal for Archaeology (GNA). On the Geoportal, recently released online, the descriptive and topographic data relating to the excavations carried out under concession from 2019 onwards are therefore visible and can be consulted.
Some of the sites that make up the serial nominated property have been included over the years by various archaeological investigations under concession: the table below shows, by way of example, the concessions entrusted from 2019 to date, whose scientific data are already uploaded to the Geoportal.

https://gna.cultura.gov.it/
https://gna.cultura.gov.it/mappa.html?sezione=concessioni

Component Site	Municipality (Province)	Area/Place Name	Concessionaire	Duration of the concession	CS (excavation) / NI (non-invasive investigation)
005- Necropolis of Mesu 'e Montes	Ossi (SS)	Monte Mannu area	University of Edinburgh	2019-2024	NI + CS
013-Shelter of Luzzanas	Ozieri (SS)	Sant'Antioco di Bisarcio	University of Sassari	2012-2023	CS
015-Necropolis of Sa Pala Larga	Bonorva (SS)	Punta Ferulosu area	University of Edinburgh	2021-2023	NI + CS

For the purpose of protection, the Superintendencies cooperate with the Region and other local public bodies, which are also required to guarantee the safety and conservation of the assets under their jurisdiction (Articles 5 and 30 of the Code).
In particular, the Autonomous Region of Sardinia has launched a Regional Plan for archaeological excavations and emergency operations on archaeological sites since 2017, also following the enactment of Regional Law 14 of 20 September 2006 "Rules on cultural heritage, institutes and places of culture" as amended and supplemented. On the basis of this rule, the Region pursues the protection, promotion and use of cultural heritage, working jointly with local authorities and the State, developing coordination actions and programmes, and supporting research activities. The Region drafts the Regional Plan for Cultural Heritage, promotes the census and cataloguing, cooperates with the Ministry for the protection, restoration, archaeological research operations also through financial contributions. To this end, it works through the Regional Plan for Cultural Heritage, incorporating the proposals of local authorities and

setting strategic priorities. For example, in connection with the UNESCO nomination "Art and Architecture in the Prehistory of Sardinia. *The domus de janas*", the Autonomous Region of Sardinia has already planned substantial resources for the most urgent operations since 2018 (example nominated property 015 Necropolis of Pala Larga-Bonorva, 016 Necropolis Sos Furrighesos-Anela).
In 2023, the allocation of resources concerned several other sites, with a specific and structural programming of the safety operations of the decorated *domus de janas* (003 Necropolis of Monte Siseri or S'Incantu-Putifigari, 005 Necropolis of Mesu 'e Montes-Ossi, 007 Necropolis of Su Crucifissu Mannu-Porto Torres, 008 Domus de janas of Orto del Beneficio Parrochiale-Sennori, 009 Domus de janas of Roccia dell'Elefante-Castelsardo, 010 Necropolis of Li Muri-Arzachena, 011 Petroglyphs Park-Cheremule, 012 Dolmen of Sa Coveccada-Mores, 013 Shelter of Luzzanas-Ozieri, 017 Settlement of Serra Lintas and 018 Necropolis of Ispiluncas-Sedilo, 020 Necropolis of Brodu-Oniferi, 021 Necropolis of Istevene-Mamoiada).
In relation to regional laws, it should be noted that Grotta Corbeddu-Oliena (022), being a karst cave, is protected by Regional Law no. 7 of 4 August 2004. According to this regulation, the operations designed for this site, also functional to the protection and promotion of the archaeological context, must also be authorized by the SAR Environmental Defense Councilor.

To complete the regulatory framework of protection, in addition to the protections enjoyed by all the component parts of the nominated property, being archaeological assets, these are also protected in terms of landscape, according to the rules set out in Part Three of the Code. In particular, this is provided for by art. 142, par. 1, letter m, which includes among landscape assets also "*areas of archaeological interest*", being protected by law.
The Region is the competent administration for the issue of the landscape authorization, but it may appoint Provinces, associations and other forms of cooperation between local authorities, or usually Municipalities for their own territories, provided that they have a general urban planning instrument in force. In cases of sub-delegation, the regions promote the establishment and regulate the functioning of the "Local Landscape Commissions", to provide technical and administrative support to the appointed bodies.
The competent Administration, generally the sub-delegate municipality, verifies the "compliance" of the proposed operation with the requirements contained in the territorial government plans and in the measures of declaration of public interest or in the landscape plans, also acquiring, if necessary, the opinion of the local landscape commission.
It then forwards the documentation to the Superintendence of Archaeology, Fine Arts and Landscape (MiC) competent for the territory of reference, which must first verify the completeness and consistency of the documentation submitted with the provisions of the Prime Ministerial Decree 12/12/2005 and, if so, must render a binding opinion on the "compatibility" of the landscape of the nominated property as a whole and its compliance with the provisions and implementing rules contained in the landscape plan.
At the end of the preliminary phase, the Superintendence gives a binding opinion that may be favourable, or inclusive of requirements to ensure that the operation carried out is fully compatible with the landscape characteristics of the territorial context.
In the case of operations which are not compatible with the landscape con-

text, the Superintendent notifies the rejection to the interested parties, which may only appeal by filing a complaint to the regional administrative court or an extraordinary appeal to the President of the Republic.
The landscape authorization by the Superintendence is an self-enforced act and a mandatory requirement with respect to the building permit and is immediately effective.
If, on the other hand, the request for authorisation concerns works to be carried out by state administrations, the authorisation is issued as a result of a local authorities planning conference in which all the administrations and territorial bodies potentially concerned participate and express their opinion. (art. 147, Legislative Decree 42/04). Projects of major state works that may affect archaeological assets and areas present within the 26 components of the nominated property, as well as in their broader territorial scope, are subject to the environmental impact assessment (VIA) to which art. 26 of the Code applies. In any case, "if before the adoption of the environmental impact assessment measure the project is found to be incompatible with the protection requirements of the targeted cultural heritage, the MiC provides a negative feedback and, in such a case, the VIA procedure is dismissed" (art. 26, par. 2) The VIA is a complex process aimed at verifying the direct or indirect environmental impacts of a plan, program or project on various factors, including cultural heritage and landscape. The Environmental Impact Assessment is carried out seeking the collaboration of various institutional levels. Responsibilities are established by Legislative Decree no. 152/2006 (Environmental regulations). At the state level, the Ministry of the Environment and Energy Security (MASE) is responsible for issuing the relevant measure, sharing the investigation process with the Ministry of Culture, which engages with the General Directorate of Archaeology, Fine Arts and Landscape (DG ABAP) to draft an expert technical opinion , in collaboration with the local Superintendencies.

In the PPR there are 26 landscape areas that include all the coastal territories, while for the entire region the Mosaic Repertoire of Landscape and Identity HEritage has been included in the PPR, where there are also thousands of archaeological assets, identified and typified individually in the PPR 2006. The Directory was updated in 2013 and 2016, as well as updated thanks to the collaborative planning shared by the Region, the Ministry and the Municipalities as part of the procedures for adjusting the Municipal Urban Plans to the PPR. This procedure, currently carried out only for some municipalities, includes the drawing of the boundaries of the identified property and it includes two types of areas: a direct protection area that consists of the area of the archaeological site; a conditional protection area that includes a larger area characterized by the landscape elements surrounding the site. Where the co-planning procedures have not yet been carried out, the safeguarding of the property included in the Directory is, in any case, guaranteed by art. 49 of the Technical Implementation Standards of the PPR, approved by Regional Law no. 8 of 26 November 2004, according to which, pending the adjustment of the Municipal Urban Planning Plans to the PPR and the analytical cartographic boundaries of the landscape protection areas around the identity heritage, they may not be smaller than a 100 m wide strip starting from the outermost historical and cultural elements of the area.

Among the implementation tools that guarantee the protection of the nominated areas, a significant importance is to be given to the law on preventive

archaeology (Legislative Decree 163/2006), a specific Italian standard that provides for a procedure for assessing the impact of public works on the archaeological heritage during the preliminary project.
Although the cultural debate that led to its theorization came much earlier, the appearance of preventive archaeology in Italian legislation dates back to the definition of art. 28 of the Urban Code (Legislative Decree 42 of 24 January 2004).
This regulatory step is then more explicitly detailed in Legislative Decree no. 63 of 26 April 2005 on "***Urgent*** *provisions for development and territorial cohesion, as well as for the protection of copyright, and other urgent measures*", whose provisions were merged, the following year, in articles 95 and 96 of Legislative Decree 163 of 12 April 2006.
For the first time in Italy, it is recognized that archaeological excavations are not necessarily and exclusively devoted to "research activities", but can also foster the control and correct planning of the territory, increasingly subject to interference caused by the need to build infrastructures suitable for the development of the country and the exploitation of natural resources, mostly linked to the need to find raw materials and energy.
Major changes have been implemented with the new Procurement Code, Legislative Decree no. 50 of 18 April 2016, which moves the procedure of prior verification of archaeological interest to the initial stage of the drafting of the Technical and Economic Feasibility Project, and with art. 50, par. 1 of Decree Law 76/2020 which in fact extends the applicability of the Preventive Verification of Archaeological Interest procedure to all the projects subject to the Environmental Impact Verification.

This regulatory framework includes the Prime Ministerial Decree of 14.02.2022, containing the "*Guidelines for the verification of archaeological interest and identification of streamlined procedures*", the result of a close collaboration between Service II of DG ABAP General Directorate of Archaeology, Fine Arts and Landscape, the ICA Central Institute for Archaeology and the ICCD Central Institute for Catalogue and Documentation, which provides that the collection of data from preventive archaeology investigations is carried out through the use of a GIS template and that all the finds thus identified are published and can be browsed on the National Geoportal for Archaeology.
Further innovations in the field of preventive archaeology were made by Legislative Decree 36/2023 (Code of Public Contracts implementing art. 1 of Law no. 78 of 21 June 2022, empowering the Government in the field of public contracts) which superseded Legislative Decree 50/2016.
Currently, the procedure for the prior verification of archaeological interest is therefore regulated by art. 41, paragraph 4 of Legislative Decree 36/2023 according to the procedural methods contained in Annex I.8, which will remain valid until the entry into force of a corresponding regulation adopted pursuant to art. 17, par. 3, of Law no. 400 of 23 August 1988, by decree of the Minister of Infrastructure and Transport, in collaboration with the Minister of Culture, after consulting the Higher Council of Public Works, which replaces it in its entirety also as an annex to the Code.
The regulatory and procedural updates on VPIA, resulting from the enactment of Legislative Decree 36/2023, are also summarized in Circular no. 32/2023 of DG ABAP and Special Superintendence for the PNRR.
One of the novelties introduced concerns the fact that, based on these regu-

latory developments, the VPIA also applies to projects relating to operations that fall within archaeological areas or archaeological parks formally identified according to art. 101 of Legislative Decree 42/2004, or protected archaeological areas pursuant to art. 142, par. 1, letter m) of Legislative Decree 42/2004, which previously were not subject to VPIA.
In all other cases, the VPIA procedure is the responsibility of the local ABAP Superintendencies.
For procedures involving more than one Superintendency within the same Region, the coordination of the preliminary phase is led by the Regional Secretary of the MiC, while for procedures involving several Regions the coordination role is carried out by the ABAP General Directorate, or by the Special Superintendency for the PNRR if operations are provided for by the National Recovery and Resilience Plan.

As regards the Protected Natural Areas, only Grotta Corbeddu is included in a National Park, namely the Gulf of Orosei and Gennargentu (Code EUAP0944), established by Presidential Decree of 30.03.1998.
However, although formally established, the Park is not operational: the governing bodies have never been established and the actual application of the protection discipline has been postponed to a new agreement between the State and the Region by Law no. 266 of 23 December 2005 – par. 573

As regards the SCI, SAC and SPA areas, they are equipped with specific management plans drawn up in accordance with the Natura 2000 Management Guidelines, where the cultural components recognisable within the boundaries of the sites are also examined, as peculiar elements to be considered in the management of the area both for its development and for the conservation of its peculiar naturalistic aspects.
In particular, in the Guidelines mentioned above highlights the need to also develop the sections concerning the archaeological, architectural and cultural component and the landscape component, in the section relating to the drafting of the "site cognitive framework".
The cultural/landscape component and the archaeological one, in particular, is seen as one of the elements relevant for the development of the territory connected to SCI, SAC and SPA areas, and in the proposed actions there is usually room for the sustainable economic exploitation of environmental, landscape, archaeological and historical-cultural assets, their recovery and integration of the same in the proposed visit routes, taking into due consideration the current legislation for their protection and in particular the procedures regulated by Legislative Decree 42/2004 and the competences of the territorial SABAPs.
The proposed actions on cultural and landscape heritage included in Natura 2000 sites must therefore be consistent with the protection of the environmental peculiarities that characterise the areas.

5.d - Existing plans related to municipality and region in which the nominated property is located

In this section, the regional and local development plans are identified and analyzed, which in some way affect the 26 nominated property sites. More specifically, the analysis focuses on plans for the conservation and

protection of sites, environmental and urban development and tourism promotion.
The analysis will be carried out at different levels, starting from the general framework and the strategic lines dictated by the national authorities, and then considering the more specific case of the Region of Sardinia and the territorial areas hosting the nominated property.

Tourist development plans
The Italian **Ministry of Tourism**, in the **spring** (April) of **2023,** published the Strategic Tourism Plan 2023-2027, based on five pillars aimed at promoting the competitiveness of the industry: *governance; innovation; quality and inclusion; tourism capacity building and professional careers; sustainability.*
Eight sectors of strategic importance for national tourism were then identified in the Plan, each of them targeted by specific actions. Among them was **cultural tourism**, in the forms of educational and school, religious, and experiential tourism, interpreted in terms of food and wine experiences, experiences developed on tourist circuits related to specific subjects and roots tourism; finally, it addressed social tourism for urban regeneration.
The plan general objective for cultural tourism is to strengthen the competitiveness of the Italian tourist-cultural assets through the following general strategic actions:

- *Strengthen the main cultural destinations through the promotion of forms of sustainable tourism, also through the promotion of proposals for longer stays, fostered by the experiential exploration of cultural heritage and itineraries leading to less popular areas.*
- *Promote year-round tourism.*
- *Make "minor" cultural areas attractive and competitive through the creation of cross-regional thematic networks or networks capable of enhancing local excellence.*

"Cultural tourism" receives support from the National Recovery and Resilience Plan (PNRR) also through projects to launch and promote cultural heritage – part of which is included in the "Caput Mundi" Project and part in the remaining areas of Component C3.
The support for tourism stemming from the investments of the PNRR on stronger infrastructures, including digital ones, and on the country's transport and mobility network, also in a sustainable perspective, is essential. The goal is to compete with other countries tourist schemes in terms of quality and easily accessible services.

At the regional level, the **Autonomous Region of Sardinia** by **Regional Law no. 16 of 28/07/2017** "***Rules on tourism***" has defined an overall strategy to plan, steer and coordinate the industry. By such a law, the Region promotes and supports tourism as a priority sector for the social-economic and sustainable development of Sardinia, in compliance with the strategic components that characterize the island in the the world tourist scenario, such as the natural environment, **the landscape, the archaeological and historical heritage**, culture and language, the human component, in its peculiar isolation within the Mediterranean area.
To implement this piece of legislation, in **July 2023, the Region of Sardinia** began working on the drafting of the **new Regional Strategic**

Tourism Plan (PSRT), for the three-year period 2023-2025.
The plan, "*acting on levers such as destination marketing and technological and organizational innovation (*governance*), seeks to improve the competitiveness and attractiveness of the Sardinia as a destination, in terms of environmental, economic and social sustainability*".
This document must be in line with the new strategic lines of action included in the SARDEGNA 2030 document, which is based on the new EU environmental guidelines and the 17 Sustainable Development Goals.
In relation to the update and implementation of the Strategic Tourist Plan, the document provides for the creation of ***sustainable tourism for socio-economic development and the protection of the culture of biodiversity.***
In this regard, among the lines of action envisaged, number 7.2 provides for the "*Development of sustainable tourism products that can contribute to seasonally increasing and diversifying the regional tourist portfolio*".

Among the activities proposed for the implementation of this regional strategy, those most closely related to the field of reference are mentioned:

- Promotion and development of experiential tourism (*e.g. spiritual paths, integration with the local community and naturalistic areas*);
- Promotion and strengthening of **cultural tourism**: ***Archaeological****, film, literary, astrotourism, geomineral, scientific, food and wine* (farm holiday, fish tourism) tourism.
- Development of integrated ecotourism proposals in natural and rural areas, focused on active tourism and well-being, to be promoted even in low season periods.
- Creation of tourist products based on the circular economy or on the integration of the local supply chain and the active involvement of local communities.
- Strengthening the skills of all the professionals in the tourist chain for greater sustainability and for the development of more competitive products and services in the national and international market.

Based on this strategy, the action plans at the territorial level will also be adjusted, managed by the Local Action Groups (GALs), the "Unioni dei Comuni" and the individual Municipalities, to which the Region assigns specific competences (Article 31 of the Regional Law no. 9 of 2006).
Pending the new plan and the new PDAs (*Action Plans*) that will be prepared and implemented locally, some local tourist development plans of interest are mentioned, which are currently being completed.

RESET project - *Territorial Network for Tourism Development and Experimentation* – presented by the Province of Sassari, where many municipalities are included among those of the nominated property (including **Alghero, Olmedo, Sassari, Porto Torres, Sennori, Castelsardo**) funded under LINEA A"*Sardegna, un'isola sostenibile - Area di specializzazione Turismo, cultura e ambiente*" Sardegna Ricerche Call, supports the multidisciplinary operational organization aimed at the development and implementation of governance systems and development plans based on "open" social innovation. The main objective being achieved is the operational organization of the territorial tourism system through the launch

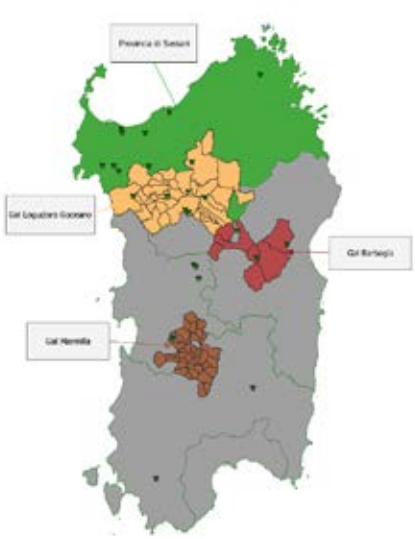
of a cross-municipal and multidisciplinary collaboration platform aimed at experimentation and the development of governance models and development plans based on open and social innovation.

DESTINATION INSIDE SARDINIA project, presented by the Barbagia GAL, which includes the municipalities of **Mamoiada and Oliena**, funded under LINEA A *of the "Sardegna, un'isola sostenibile - Area di specializzazione Turismo, cultura e ambiente"* Sardegna Ricerche Call, aimed at the development of tourism in inland Sardinia, starting from the peculiar characters of the territory, including traditions, **culture, archaeology** and nature. For more information, please refer to: https://destinationinsidesardinia.it/

PDA of the Logudoro Goceano GAL 2014-2020. It covers a vast territory of 34 municipalities in northern Sardinia, including 6 of the municipalities including the nominated property, namely: **Anela, Bonorva, Cheremule, Mores, Ozieri, Villanova Monteleone.** Its main objective is the tourist development of the territory through the implementation of innovative actions and strategies for sustainable tourist development with a strong **social-cultural footprint**. In this regard, the PDA has provided incentives for initiatives and activities aimed at:

- *Strengthening and improving the accommodation and tourist portfolio.*
- Diversifying the tourist portfolio through specialization in TOURIST PRODUCTS, including **Archaeological - Cultural products**.
- *Promoting new tourist products through new channels and new methodologies.*

For more information, please refer to:
https://www.gallogudorogoceano.it/programmazione/programmazione-2014-2020/pda.html.



The **PDA of the Marmilla GAL**(where the **Pau** and **Villa Sant'Antonio** sites are located) also focuses on the promotion of **cultural heritage and artistic heritage linked to the territory** which, in some cases, are exceptional examples at the international level (Monte Arci-**Ossidiana**), in some cases recognized as World Heritage (*Su Nuraxi* in Barumini), in other cases Sites of Community Interest or Special Protection Areas (Giare). Specifically, this plan is related to Measure 313 Action 1 (MarmillAttraverso https://www.galmarmilla.it/progetti/marmilla-attraverso) and Action 2 (MarmillAccogliente). By the MarmillAttraverso project, **all the cultural assets and attractions present geo-referenced** with the creation of routes whose nodes are marked by accommodation facilities or places were local products are sold, according to an idea of integration between industries for the development of a territorial product.
At the regional level, the Autonomous Region of Sardinia by Regional Law no. 16 of 28/07/2017 "Rules on tourism" has defined an overall strategy to plan, steer and coordinate the industry. By such a law, the Region promotes and supports tourism as a priority sector for the social-economic and sustainable development of Sardinia, in compliance with the strategic components that characterize the island in the the world tourist scenario, such as the natural environment, the landscape, the archaeological and historical heritage, culture and language, the human component, in its peculiar isolation within the Mediterranean area.

https://buras.regione.sardegna.it/custom/frontend/viewInsertion.xhtml?insertionId=95a09e04-8603-460e-8133-7e0830d4671e

To implement this piece of legislation, in July 2023, the Region of Sardinia began working on the drafting of the new Regional Strategic Tourism Plan (PSRT), for the three-year period 2023-2025.

https://delibere.regione.sardegna.it/protected/68798/0/def/ref/DBR68454/

For current environmental and urban development programmes concerning the municipality and region in which the candidate site is located, see the tables below.
For conservation and protection programmes, please refer to section 5.f.

Project title	Main actions/ planned actions	Decision details (if already deliberated)	Reference measure / programme	Source of finance	Amounts allocated / to be allocated	Reference year	State of implementation (if ongoing)	Completion date
ACCORDO DI PROGRAMMA QUADRO - Progetto di Sviluppo Territoriale (PST)-PT-CRP 22 "VIVI BARGUI! Comunità, esperienze e percorsi intorno al Lago Omodeo"	TERRITORIAL PLANNING Comunità, esperienze e percorsi intorno al Lago Omodeo	FRAMEWORK PROGRAMME AGREEMENT BETWEEN THE REGION OF SARDINIA - REGIONAL PROGRAMMING - UNIONE DEL GUILCIER UNION ON 17/06/2019 Unione del Guilcier Decision no. 29 of 06/06/2018	Action 22.01 (Innovative potential of territorial resources) - Routes around Lake Omodeo - mooring point in Lake Omodeo (Sedilo/ Aidomaggiore)	Region of Sardinia	FSC 2014- 2020 - €. 3,706,000.00 OP ERDF 2014-2020 – €. 2,693,000.00	2018/2019	LAUNCHED	2024
"Programma di sviluppo finalizzato alla bonifica del lago Omodeo e attività di valorizzazione per procedere alla costituzione del relativo Contratto di Lago"	Regional guidelines for River Contracts. Reclamation and water resource promotion study	RAS Resolution no. 48/15 of 29/11/2019	R.L. no. 48/2018 Directive 2000/60/CE Directive 2007/60/CE RIver contracts "DPCM 27 ottobre 2016"	Region of Sardinia	€. 500,000.00	2019/2021	LAUNCHED	2024

Municipality	Project Title	Main planned actions	Decision details	Reference measure / programme	Source of finance	Funding	Year	State of implementation
Oliena (Grotta Corbeddu)	Sustainable Development Plan of the Municipality of Oliena	Interventions for the promotion of the natural heritage and environmental protection: Conservation and promotion of the archaeological heritage in the territory and in particular in the Lanaitho Valley	Municipal Council Resolution no. 9 of 28/02/2023	/	Municipal Budget	/		
Oliena (Grotta Corbeddu)	"SupraTutto-Sistema di valorizzazione turistica del territorio: rete dei centri di accoglienza turistica nei Comuni di Dorgali, Oliena e Orosei. Cod. CUP J19D18000000002"	Redevelopment of the building in the locality of Budorrai within the Lanaitho Valley to be used as the Centre of the Valley's visitor enhancement and reception system, providing hospitality, infopoint, catering, etc.	Municipal Council Resolution. no. 32 of 21/04/2023	Territorial programming - PT-CRP-31	Autonomous Region of Sardinia - Department of Tourism - Cohesion Action Plan Cohesio Action Sardegna (CAP)	600,000.00	2022/2023 Completion date: 2023	Contract work

5.e - Property management plan or other management system

The management plan of the nominated property is attached to the Application Dossier (see Annex 1)

5.f - Sources and levels of finance

Such a large number of monumental complexes spread over a large and differentiated area of Sardinia, requires considerable financial resources for the conservation, maintenance, management and ordinary and extraordinary enhancement of the same.
During the last 5 years, also considering the current year, the funds allocated have mainly focused actions of an extraordinary nature, mainly allocated by the Region of Sardinia, in the context of specific projects or included in programmes for territorial promotion and development.
The table below summarizes the data on the financial resources made available during the last five years, broken down by source of finance (the amounts do not include staff salaries).

SOURCE OF FINANCE	ROUTINE operations Previous years			EMERGENCY operations Previous years			ROUTINE operations Current years		EMERGENCY operations Current years	
	2020	2021	2022	2020	2021	2022	2023	2024	2023	2024
MiC						313,705.00			1,000,000.00	
Autonomous Region of Sardinia				1,859,244.00	100,000.00	670,000.00			2,600,615.00	990,000.00
Municipalities	3,500.00	3,500.00	3,500.00		176,490.00		3,500.00	3,500.00	667,799.00	
Other resources (territorial planning - PNRR)				650,000.00	350,000.00				147,826.00	
Total	3,500.00	3,500.00	3,500.00	2,509,244.00	626,490.00	1,660,870.00	3,500.00	3,500.00	3,416,240.00	990,000.00

Source: data processing provided by: Secretariat General of Sardinia; Superintendence of Archaeology, Fine Arts and Landscape for the Metropolitan city of Cagliari and the Provinces of Oristano and Sud Sardegna and Superintendence of Archaeology, Fine Arts and Landscape for the Provinces of Sassari and Nuoro; Region of Sardinia; Municipal Administrations involved.

A specification of the data included in the previous table is shown below, where the funds allocated at various levels are described, site by site, for the financing of projects that, in some cases, focus on ordinary conservation and maintenance, and in other cases, development and promotion, both in a scientific and tourist perspective.

Municipality and site	Project Title	Measure/ programme	Source of finance	Funding	Year	Implementation status
Alghero – Anghelu Ruju	Construction of a PV system		Municipality of Alghero	40,000	2022	Completed
	Creation of a platform for the online purchase of experiences in the museum sites managed by Fondazione Alghero		Self-funded	36,000	2022	Completed
	Alghero Ticket – creation of a single ticket for all Alghero monumental sites		Self-funded	25,000	2021	Completed
	Intervention for the conservation, restoration, promotion and organization of the visiting system	Law no. 205 of 27/12/2017 D.P.C.M. 28 November 2018	State	450,000.00	2021-2025	Ongoing executive design
	Action to improve visiting routes for the purpose of universal accessibility	Law no. 205 of 27/12/2017 D.P.C.M. Nov. 28, 2019	State	1,500,000.00	2025-2032	Being launched
Anela – Necropolis of Sos Furrighesos	Extraordinary maintenance of the existing access road system to the archaeological area of Sos Furrighesos		Municipality of Anela	405,000	2023/24	Technical-Economic Feasibility Project
Ardauli – Necropolis of Mandras	Ardauli (OR). Restoration and arrangement of the prehistoric painted hypogeal grave of Mandras	Project funded under Article 1, paragraphs 9 and 10 of Law no. 190 of December 23, 2014 (2015 Stability Law). 2022-2024 years	State	173,705.73	2022-2024	Being designed
	Consolidation, restoration and use of the domus de janas in Sardinia	Law 190/2014 years 2022-2024 MD 289 of 18/07/2022	State	1,100,000 (to be shared with Goni, Pimentel and Villaperuccio)	2022-2024	Ongoing preliminary design
Arzachena – Circolo Li Muri	Knowledge and reconstruction of the historical landscape of the territory of Arzachena	Project in collaboration with National Research Council, Institute of Cultural Heritage Sciences	Municipal Budget	66,490	2021	Ongoing

Municipality and site	Project Title	Measure/ programme	Source of finance	Funding	Year	Implementation status
Bonorva – Sant'Andrea Priu and Sa Pala Larga	Promotion and redevelopment of the historical archaeological area at the Spring of Su Lumarzu, necropolis of Sant'Andrea Priu, Roman prisons	Resolution no. 1124 of 15/11/1999 of the Director General Councilor of Public Works and no. 2491 of 02/08/1999 of Director General Councilor Public Education for the implementation of the actions included in the PIA SS11- Meilogu - Valle dei Nuraghi	RAS	1,859,244.83	1999/2000	Completed
	Archaeological excavation work at the Roman baths located in Sant'Andrea Priu	Municipal funds derived from surplus administration	Municipality of Bonorva	110,000.00	2021	
	Archaeological excavation, consolidation, restoration and implementation of works related to the use of the Complex of Sant'Andrea Priu.	Extraordinary programming pursuant to paragraphs 9 and 10 of L. 23/12/2014, no. 190.	RAS SABAP-SS	2,044,000.00 (shared with Nuraghe Santu Antine-Torralba and Nuraghe Oes-Giave	2021-2023	Ongoing
	Excavation and restoration works for the promotion and conservation of the Sa Pala Larga Necropolis of Bonorva.	State – Region Agreement of 07.11.2019. Paragraph 871, article 1 of the Law no. 160 of December 27, 2019	RAS	140,000.00	2022	Awarding of engineering services
Goni – Pranu Muttedu	Consolidation, restoration and use of the domus de janas in Sardinia	Law 190/2014 years 2022-2024 MD 289 of 18/07/2022	State	1,100,000 (to be shared with Ardauli, Pimentel and Villaperuccio)	2022-2024	Ongoing preliminary design
Mores – Dolmen sa Covaccada	Restoration of the "Dolmen Sa Covaccada" Megalithic Complex	Law 190/2014 years 2021-2023 MD 450 of 16/12/2021	MiC	1,000,000	2023-2024	Design
Olmedo – Monte Baranta	territorial planning - common development project "Anglona Coros, terra di tradizioni "abbattimento barriere architettoniche"	PT15 - ERDF ROP AZ.6.7.1	Autonomous Region of Sardinia	150,000.00	2022	Ongoing
Oliena – Grotta Corbeddu	Supra Tutto – Local tourist promotional system: Network of tourist reception centers: redevelopment of the building in the Budorrai area to be used as a visitor reception center.	Territorial Planning PT – CRP - 31	Department of Tourism of the Region of Sardinia	600,000	2022-2023	Contract work

Municipality and site	Project Title	Measure/ programme	Source of finance	Funding	Year	Implementation status
Ossi – Mesu ‘e Montes	Actions to improve the accessibility and usability of the archaeological area of Mesu 'e Montes	PT17 - Territorial Planning PST-PT-CRP-15/ INT- Progetto di sviluppo territoriale Anglona Coros - Terre di Tradizioni	RAS	876,690.51* € In total with other Municipalities	2018	Ongoing
Ozieri – Shelter of Luzzanas	Luzzanas verso l’UNESCO. Study and securing, protection and conservation of the site		Autonomous Region of Sardinia	120,000	2024	To be launched
	Establishment of right of way and construction of pedestrian access road		Autonomous Region of Sardinia	120,000	2024	To be launched
Pau - Shelter of Su Forru de is Sinzurreddus and the stone tool workshops of Sennixeddu	Conservation, protection and promotion of the Shelter of Forru de Is Sinzurreddus		Geomining Park	650,000	2020/22	Technical and economic feasibility study
	Maintenance, protection and promotion of the stone tool workshop of Sennixeddu		Marmille GAL	350,000	2020/22	Technical and economic feasibility study
Porto Torres – Su Crucifissu Mannu	"Percorsi di Archeologia, Storia, Cultura ed Ambiente nel territorio di Porto Torres"		Municipal budget + Autonomous Region of Sardinia	239,799.76	2023/2024	Ongoing
Putifigari – S’Incantu	Promotion of the domus de janas of S'incantu. Balance defense; protection and conservation of geosystems. Promotion of historical, cultural, social, and archaeological aspects. Education of local people and visitors; sustainable development; improvement of the viability to the site.		Autonomous Region of Sardinia	200,000	2023	Being designed
	Conservation and restoration works of the Domus de janas of S'Incantu.	M.D. Aug. 5, 2021, reg. 290	MiC	47,334.69	2021-2023	Ongoing
	PUTIFIGARI (SS) Domus de janas S'Incantu Conservative restoration	Ordinary plan - SABAP-SS	MiC	93,354.72	2023-2024	Being approved

Municipality and site	Project Title	Measure/ programme	Source of finance	Funding	Year	Implementation status
Sassari – Santuary of Monte D'Accoddi	Actions for the accessibility and securing of the archaeological site of Monte D'Accoddi	Metropolitan Network	Regional Funds	1,000,000	2023	Ongoing
	PNRR actions Ministry Of Culture - Mission 1 - Digitization, Innovation, Competitiveness and Culture, Component 3 - Culture 4.0 of the PNRR d competence of MiC	Removal of physical barriers and improvement of cognitive accessibility in places of culture pertaining to the Ministry of Culture	Fund pursuant to Decree of General Secretariat no. 1155 of 01/12/2022 (Annex A) PNRR special budget.	147,826.05	2023	Preparation of executive design
Sedilo – Archaeological Park of Iloi/ Ispiluncas and Serra Linta Village.	Contract for research and scientific activities between the Municipality of Sedilo and the University of Sassari for excavation, survey, restoration in the archaeological site of Iloi and the territory of Sedilo.	Five-year Research Plan (EXCAVATION CAMPAIGN IN THE ARCHAEOLOGICAL SITE OF ILOI).	Municipality of Sedilo	3.500/year	2019/2024	Launched
	Conservative restoration and securing/ consolidation of the Nuragic complex of Iloi and Talasai	Development and Cohesion Fund 2014/2020	Region of Sardinia	100,000.00	2021/2022	Completed
	Conservative restoration and securing/ consolidation of the Nuragic complex of Iloi and Talasai	Development and Cohesion Fund 2014/2020	Region of Sardinia	190,000.00	2022/2023	Being launched
Sennori – Orto del Beneficio parrocchiale	North Sardinia Metropolitan Network, a territory of cities: actions for the protection, enhancement and networking of cultural tangible and intangible heritage, in areas of attraction of strategic importance, such as to consolidate and promote development processes.	Action 32.01 - Integrated tourist promotion of cultural attractions.	ERDF 2014-2020- aZ 6.7.1	320,000.00	2020/2021	To be launched

Municipality and site	Project Title	Measure/ programme	Source of finance	Funding	Year	Implementation status
Villanova Monteleone – Puttu Codinu	Management of the Nuraghe Appiu archaeological park and ethnographic museum *(also including the site of Puttu Codinu)	R.L. no. 14/2006, art. 21, paragraph 2(b) and R.R. no. regional law Dec. 12, 2022, no. 22	Regional funds	€200,615.22 (for all sites)	2023	Ongoing
Villaperuccio - Montessu	Design and implementation of new signs: descriptive, signing, directional panels, etc.		Municipal Budget	12,226.70	2023	Being launched
	Purchase of new equipment for the reception center		Municipal Budget	8,000	2023	Being launched
	Consolidation, restoration and use of the domus de janas in Sardinia	Law 190/2014 years 2022-2024 MD 289 of 18/07/2022	State	1,100,000 (to be shared with Ardauli, Pimentel and Goni)	2022-2024	Ongoing preliminary design

The great opportunity for the promotion and development of the areas of reference of the complexes and of the entire regional territory, offered by the UNESCO inscription, has prompted the financing of action aimed at the conservation and promotion of the sites that resulted in the Resolutions of the Regional Council no. 37/18 of 14.12.2022 and no. 32/13 of 6.10.2023, thereby the Region of Sardinia approved an investment programme for the years 2022-2023-2024 based on the funds available by Art. 4, Paragraph 3 of Regional Law 17/2021, concerning "***actions to secure the decorated domus de janas***", granting funding to the Municipalities that have requested it, in their capacity as implementing bodies.
Through such a programme, **EUR 2,430,000** have been allocated to finance 14 of the nominated property sites as specified below:

Municipality	Project	2022	2023	2024
		Resolution G.R. no. 37/18 of 14.12.2022	Resolution G.R. no. 32/13 of 06.10.2023	Resolution G.R. no. 32/13 of 06.10.2023
Anela	Conservation and promotion of the domus de janas Necropolis of Sos Furrighesos - Anela	330,000		
Ardauli	conservation and promotion of the domus de janas Necropolis of Mrangias/Mandras – Ardauli	150,000		
Arzachena	Conservative and promotional actions of the Circles of Li muri.		100,000	100,000
Castelsardo	Actions aimed at the conservation and promotion of Roccia dell'Elefante		100,000	50,000

Municipality	Project	2022	2023	2024
		Resolution G.R. no. 37/18 of 14.12.2022	Resolution G.R. no. 32/13 of 06.10.2023	Resolution G.R. no. 32/13 of 06.10.2023
Cheremule	Conservative and promotional actions in the Petroglyph Park.		100,000	50,000
Mamoiada	Conservative and promotional actions in the Necropolis of Istevene		150,000	
Oliena	Conservative and promotional actions in Grotta Corbeddu		100,000	50,000
Oniferi	Conservative and promotional actions in the Necropolis of Brodu		150,000	
Ossi	Conservative and promotional actions in the Necropolis of Mesu 'e Montes		50,000	100,000
Ozieri	Conservation and promotion of the Shelter of Luzzanas		100,000	100,000
Porto Torres	Conservative and promotional actions in the Necropolis of Su Crucifissu Mannu		100,000	50,000
Putifigari	Conservative and promotional actions in the Necropolis of Monte Siseri/S'Incantu		100,000	50,000
Sedilo	Conservative and promotional actions in the necropolis of Illoi Ispiluncas and conservative and promotional actions in the Village of Serra Linta		100,000	100,000
Sennori	Conservative and promotional actions in the Domus de janas of Orto del Beneficio Parrocchiale		50,000	100,000
	Total	**480,000**	**1,200,000**	**750,000**

At the national level, under Law no. 205 of 27 December 2017, Article 1, paragraph 1072, Italian Presidential Decree of 28 November 2019, additional EUR 1,500,000.00 were allocated by the Italian Government for the 2025-2032 period for the "*Intervento di miglioramento dei percorsi di visita ai fini dell'accessibilità universale*" *in the Hypogeal Necropolis of Anghelu Ruju in Alghero (SS).*

The Necropolis of Anghelu Ruiu is one of the most important and well-known in Sardinia, due to its shape it is intended to be an archaeological site accessible to people affected by motor and/or sensory disability. The project offers a participatory path with the various trade associations in order to develop knowledge-based itineraries, including multimedia, and understand the peculiar characters of the site. The action also includes restoration and consolidation of the hypogeal structures.

Clearly, the funds currently allocated, although significant, will have to be supplemented in the future, to further raise, where necessary, the level of accessibility and promotion of the nominated monumental complexes, as well as to maintain a good level of conservation of the individual assets.

5.g - Sources of expertise and training in conservation and management techniques

As for the sources of expertise and training in conservation and management techniques, in Italy there are several institutions, listed below, operat-

ing at the national level, some of which are part of the Ministry of Culture (MiC).

Expertise and training in conservation and management techniques within the MiC

Directorate-General for Education, Research and Cultural Institutes

The Directorate-General for Education, Research and Cultural Institutes is a central body of the Ministry of Culture (MiC), based in Rome. The Directorate:

- Promotes knowledge on cultural heritage and its civil function at the local, national and international levels. Through the **Centre for Educational Services**, it coordinates the system of educational services in museums and in the local territory.
- It coordinates and promotes research programmes in the field of cultural heritage: it collaborates with public and private bodies, with EU and international research institutions, with the Ministry of University and Research (MUR) and **CNR** (see below);
- It drafts, authorizes and evaluates the MiC internal training activities.
- It takes care of international training projects and training activities for external personnel.
- It focuses on professional profiles in the field of cultural heritage.
- It coordinates, steers and supervises **the Central Institute of Restoration** (see below), the **Opificio delle Pietre Dure** (see below), the Central Institute for the Pathology of Archives and Books (where Post-graduate Schools operate, issuing diplomas equivalent to Master's degree in Conservation and Restoration of Cultural Heritage) and the Central Institute for Graphics.

https://dgeric.cultura.gov.it/

Central Institute of Restoration (ICR)

The Central Institute of Restoration (ICR) is a technical body of the Ministry of Culture based in Rome, specialized in the field of restoration and conservation of works of art and cultural heritage. Since its foundation in 1939, the Institute has set the restoration activity on a sound scientific basis and unified the methods of action on works of art and archaeological finds. In more detail, ICR focuses on:

- The promotion, research, design, experimentation and verification of the protection of cultural heritage.
- The promotion and technical-scientific verification of plans, projects, and planned conservation works, restoration and maintenance of cultural heritage at the request of MiC Divisions and other public and private institutions.
- The drafting of technical and methodological standards for the design and execution of restoration works.
- The verification of the compatibility of methods, techniques and materials to be used in restoration with the needs of the protection of cultural heritage.
- The teaching of the restoration of cultural heritage through its School.
- The promotion and training of the staff of the MiC central and pe-

ripheral divisions.
- The launch of new divisions and research centers on the national territory focusing on institutional tasks, also through agreements with the Regions.
- The promotion and restoration works of cultural heritage, for particularly complex operations or compliance with research or educational needs.
- The promotion and organization of scientific conferences and debates.
- The publication of results of the research carried out and the analytical and operational methods developed.
- It may provide on-demand paid services to public and private organizations.

These tasks are complemented by other tasks, including carrying out systematic investigations on the effects that environmental, natural and incidental factors exert on deterioration processes and on the means to prevent and inhibit such effects.
Finally, the ICR Post-graduate School offers five-year courses. Each specialization course includes several types of artifacts being made of the same materials so that students may acquire a consistent and informed knowledge of the conservative issues of the specific field chosen.
http://www.icr.beniculturali.it/

Opificio delle Pietre Dure (OPD)
The Opificio delle Pietre Dure (OPD), based in Rome, is a special autonomous institute of the Ministry of Culture that operates as a centre of competence and national reference in the field of the conservation of works of art, carrying out restoration, research and post-graduate education activities.
The Opificio manages eleven Divisions specialised in restoration, but also carries out research and training activities. Research, both theoretical and applied to cases under restoration, is organized around the Scientific Laboratory. The training activity is carried out through the Post-Graduate School, one of the three official State Schools of Restoration. At the end of one of the five available degree courses, the School grants the qualification of Restorer of Works of Art that certifies both theoretical studies and hands-on experience.
https://opificiodellepietredure.cultura.gov.it/

Directorate-General for Archaeology, Fine Arts and Landscape (DG ABAP)
The Directorate-General for Archaeology, Fine Arts and Landscape (DG ABAP) is based in Rome and it focuses on the protection of the whole archaeological, historical, artistic and demoethnoanthropological heritage, including wall paintings and decorations, as well as the protection of architectural heritage and the quality and protection of the landscape.
The Directorate-General for Archaeology, Fine Arts and Landscape is divided into eight central executive offices, including the National Superintendence for Underwater Cultural Heritage, the Central Institute for Archaeology and the Central Institute for Intangible Heritage, in addition

to the Superintendencies of Archaeology, Fine Arts and Landscape, and peripheral executive offices.
https://dgabap.cultura.gov.it/
With reference to the activities carried out by the Superintendencies of Archaeology, Fine Arts and Landscape, the Directorate-General steers, directs, coordinates, controls and, if necessary, after informing the Secretary General, revokes and replaces, also upon request of the Regional Secretary.
The **Superintendencies** operate at the local level to protect the archaeological, historical, artistic, ethnoanthropological, architectural and landscape heritage, with specialized technical personnel (archaeologists, specialized technical personnel, architects, art historians, restorers, diagnostic experts, photographers).
Two Superintendencies operate in Sardinia: the Superintendence of Archaeology, Fine Arts and Landscape for the Metropolitan City of Cagliari and the provinces of Oristano and Sud Sardegna (https://www.sabapca.beniculturali.it/) and the Superintendence of Archaeology, Fine Arts and Landscape for the Provinces of Sassari and Nuoro (http://sabap_ssnu.beniculturali.it/).

Central Institute of Archaeology (ICA)
The Central Institute of Archaeology (ICA), established in 2016 in Rome, is a management office of the Directorate-General of Archaeology, Fine Arts and Landscape of the Ministry of Culture, and it focuses on education and research in the field of archaeology. The ICA focuses on the following:

- The definition and application of guidelines, standards and coordination measures necessary to ensure the development of education and research in the field of archaeology.
- The monitoring of documents, databases and existing archives at the Superintendencies and Archaeological Parks, as well as, where appropriate, at Italian or foreign private owners, holders or tenants of documents on the protection of archaeological assets in Italy.
- The monitoring and online publication of archaeological data archives.
- The standardization of documents focusing on both predictive and preventive archaeology.
- The set-up of quality standards for digital and printed archaeological publications.
- The promotion of innovation and experimentation in the methods and technologies of territorial research in applied sciences and computer documentation technologies.
- The creation of databases and thematic cartographies, in order to create a unified map of the archaeological potential on a national scale.
- The improvement, the safeguarding, conservation and protection of archaeological heritage through the drafting of guidelines on specific issues.
- The promotion of the role of Italian archaeology at the international level.
- The provision of technical-scientific advice and support to third countries within the scope of the actions of the Ministry of Foreign Affairs and International Cooperation.

- The support the Directorate-General of Archaeology, Fine Arts and Landscape in the coordination of governmental and non-governmental national, foreign and international subjects, operating on the national territory, in the context of excavation concessions and research projects.
- The signing of agreements with Italian and foreign universities and research centres, with the Italian Archaeological School in Athens and with the School of Cultural Heritage and Activities and Tourism.

http://www.ic_archeo.beniculturali.it/

The Directorate-General of Museums

The Directorate-General of Museums is based in Rome and it coordinates the management, use and communication policies of State museums, to ensure the development of the Italian museum system and a top-quality cultural portfolio accessible to all. In addition, it supports the creation of territorial networks involving different stakeholders, within the scope of their competences, in order to fully promote cultural heritage as a whole and the social role of museums. Finally, it promotes innovative management systems, including participatory management of museums and places of culture. The Directorate coordinates the **Regional Directorates of Sardinia Museums**.
http://musei.beniculturali.it/

The **Regional Directorate of Sardinia Museums** is a peripheral division of the Ministry of Culture that implement public access, accessibility and the promotion of museums, monuments and State archaeological areas in the territory of Sardinia.

In addition, it promotes collaboration with other cultural institutes in the region for the creation of cultural and tourist routes, and for educational and technological innovation.

https://musei.sardegna.beniculturali.it/

The Directorate-General for the Safety of Cultural Heritage

The Directorate-General for the Safety of Cultural Heritage ensures the design, planning, coordination, implementation and monitoring of all initiatives in the field of risk prevention and cultural heritage security and the coordination of operations required for national and international emergencies, also in collaboration with other competent administrations, in compliance with the guidelines and directives signed by the MiC Secretary General. The General Management also ensures the good progress and the necessary consistency in the management of emergency operations to secure the cultural heritage, recovery and reconstruction actions in the areas affected by Acts of God, as well as actions aimed at prevention and fire safety in institutions and places of culture belonging to the State. To this end, the Directorate-General coordinates all initiatives using the peripheral structures of the Ministry, also according to organizational models specifically provided for the emergency phases.

https://www.beniculturali.it/ente/direzione-generale-sicurezza-del-patrimonio-culturale

Fondazione Scuola dei beni e delle attività culturali

Fondazione Scuola dei beni e delle attività culturali is an international institute for training, research and advanced studies within the competences of the Ministry of Culture, a founding member. The Foundation was created to enhance and promote the skills of professionals involved in the care and management of cultural heritage and activities. The Foundation is aimed at professionals and scholars, public and private institutions, non-profit organizations and places of culture, helping to create synergies between the different actors of the system and to promote the cultural heritage and the role of cultural professionals.
https://www.fondazionescuolapatrimonio.it/

National reference bodies for the conservation and management of cultural heritage

International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM)

The International *Centre for the Study of the Preservation and Restoration of Cultural* Property (ICCROM) is an international organization that has been working since 1956 with 137 Member States to promote the preservation of cultural heritage in every region of the world.

As an intergovernmental organization with an extensive network of conservation experts, it can count on formal institutional collaborations with organizations such as UNESCO and its World Heritage Committee, for which it serves as an advisory body; non-governmental organizations such as ICOMOS (International Council of Monuments and Sites), ICOM (International Council of Museums), ICA (International Council of Archives) and IIC (International Institute of Conservation), as well as scientific institutes and universities operating in the Member States.

ICCROM develops educational programmes, tools and materials for conservation and restoration, organizing vocational training activities around the world. ICCROM is committed to providing cutting-edge training to generations of conservators around the world. Indeed, it is dedicated to raising awareness and supporting conservation and restoration at all levels, from global bodies, to governments and communities. The organization provides technical assistance to Member States by sharing educational materials, information, workshops and training opportunities.

ICCROM influences the scientific agenda of cultural conservation institutions, coordinates knowledge sharing, and creates stimulating and collaborative environments where researchers can meet.

Finally, ICCROM promotes interdisciplinary, interregional and international cooperation, bringing together experts and institutions from all over the world, to offer technical advice, education and training, and to carry out field visits.
https://www.iccrom.org/home

National Research Council (CNR)

The National Research Council (CNR) is a national public research body with multidisciplinary expertise, supervised by the Ministry of University and Research (MUR). Founded in 1923, it carries out scientific research projects in the main fields of knowledge and applies the results for the development of the Country.

CNR deals with: human and global health, environment and energy, food

and sustainable agriculture, transport and production systems, ICT, new materials, aerospace, human sciences and protection of cultural heritage, social sciences, bioethics, quantum sciences and technologies, artificial intelligence, enabling technologies.
The activities are carried out by a human capital of about 8,500 employees operating throughout the national territory, over 7,000 of which are engaged in research and research support activities. Its scientific network consists of 88 research institutes and seven departments for macro-thematic areas. A major contribution comes from collaborations, including international ones, with researchers coming from universities and companies. CNR is also the largest non-university body involved in the research doctoral studies of Italian universities, with the aim of contributing to the higher education of young people through pathways characterized by a high scientific profile, innovation and research quality.
https://www.cnr.it/

The **Institute of Cultural Heritage Sciences** pursues scientific excellence and fosters innovation in the knowledge, conservation and enhancement of cultural heritage through collaborative research involving the humanities, experimental sciences and technological applications.
With over 180 researchers, technologists and technicians from various fields and a strong bent for interdisciplinarity, ISPC is the CNR's hub for research, innovation, training and technology transfer in the strategic area of Cultural Heritage, open to collaboration in national and international competence networks.
https://www.ispc.cnr.it/it_it/

Italian National Institute for Environmental Protection and Research (ISPRA)
The Italian National Institute for Environmental Protection and Research, ISPRA, is a public research body, with legal personality under public law, technical, scientific, organizational, financial, managerial, administrative, property and accounting autonomy. ISPRA is the technical-scientific body of the Ministry of the Environment and Energy Safety (MASE). ISPRA is supervised by the Ministry of the Environment and Energy Safety (MASE). Without prejudice to the performance of the tasks, services and activities assigned to the Institute in accordance with current legislation, the directives also describe the priorities relating to additional tasks, in order to prioritize the performance of the functions of support to the MASE.
Since 2010, three entities controlled by MASE have been merged into ISPRA:

- The Agency for Environmental Protection and Technical Services (APAT).
- The Central Institute for Scientific and Technological Research Applied to the Sea (ICRAM), with its divisions in Rome, Palermo, Chioggia and Livorno.
- the National Institute for Wildlife (INFS), based in Ozzano dell'Emilia.

ISPRA promotes and implements research and strategic approaches to address biodiversity and habitat conservation issues.

ISPRA is also the steering and coordinating body of the regional environmental protection agencies (ARPA) and cooperates with the European Environment Agency and with national and international institutions and organizations operating in the field of environmental protection.
Following the 2017 National System for the Protection of the Environment, a network was created merging together the Institute, the regional agencies (ARPA) and those of the two autonomous Provinces (APPA) that ISPRA coordinates. Therefore, ISPRA performs technical and scientific functions, both in the support of MASE and directly, through monitoring, evaluation, control, inspection and management of environmental information.
https://www.isprambiente.gov.it/it

Department of Civil Protection
The Department of Civil Protection is a division of the Presidency of the Council of Ministers. It was founded in 1982 as a body capable of managing and coordinating all the national resources needed to provide assistance to the population in the event of a serious emergency.
Since 1992, the Department has served as the contact point of the National Civil Protection Service, a capacity strengthened and promoted in 2018 by the Civil Protection Code. The Department steers. promotes and coordinates the entire National Civil Protection Service.
In collaboration with the Regions and the Autonomous Provinces, it develops and coordinates the National Plans for risk scenarios and tests their effectiveness through drills; it coordinates the Service's operations in the event of emergencies of national scope, it promotes activities aimed at risk prediction and prevention, it defines the general criteria for the identification of seismic zones and it develops general guidelines for training activities in the field of civil protection.
The Department also coordinates the participation of the National Service in the EU civil protection policies and operations in emergencies abroad.
https://www.protezionecivile.gov.it/it/

Headquarters of the Carabinieri Units for Forestry, Environmental and Agri-food protection
In 2016, the Headquarters of the Carabinieri Units for Forestry, Environmental and Agri-food protection were established, with departments dedicated to environmental, territorial and water protection, as well as safety and monitoring in the agri-food sector.
The Headquarters of the Carabinieri Units for Forestry, Environmental and Agri-food protection report hierarchically to the Commander General of the Carabinieri Legion, and operationally to the Minister of Agricultural, Food and Forestry Policies for matters relating to agri-food and forestry security and protection. The Command is also used by the Minister of the Environment and the Protection of the Territory, the Sea and Tourism, limited to the performance of the functions attributable to the Ministry.
The Headquarters of the Units for Forestry, Environmental and Agri-food protection are responsible for:

- The Carabinieri Headquarters for the Protection of Forests and Parks.
- The Carabinieri Headquarters for the Protection of Biodiversity.
- The Carabinieri Headquarters for the Protection of the Environ-

ment and Ecological Transition.
- The Carabinieri Headquarters for Agri-food Protection.

The Carabinieri Headquarters for the Protection of Forests and Parks controls all the forestry departments with supervisory having no specialized function. Coordinated by the Forestry Brigadier General, it includes the a NIAB (Forest Fire Information Unit) and the 14 Forestry Carabinieri Regional Headquarters.
The Carabinieri Headquarters for the Protection of Biodiversity manages, coordinates and monitors the Carabinieri Biodiversity Groups and the CITES Groupings, responsible for:
- The protection of biodiversity.
- The implementation of the CITES (the Washington Convention on International Trade in Endangered Species of Wild Fauna and Flora).

The Carabinieri Headquarters for the Protection of the Environment and Ecological Transition, that is divided into 3 Environmental Protection Groups and 29 Ecological Operational Units, combats pollution, illegal real estate construction and illicit disposal of toxic substances.
In agriculture and fisheries, the Carabinieri Legion monitors through the Carabinieri Headquarters for Agri-food Protection, that operates with an Operational Department at the central level and 5 Agri-Food Protection Departments at the interregional level.
https://www.carabinieri.it/chi-siamo/oggi/organizzazione

National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA)
ENEA is the National Agency for New Technologies, Energy and Sustainable Economic Development, a public law body focusing on research, technological innovation and the provision of advanced services to enterprises, public administration and citizens in the fields of energy, environment and sustainable economic development.
ENEA has highly qualified personnel, laboratories, experimental facilities and instrumentation of excellence to carry out projects, studies, tests, evaluations, analyses and training services with particular reference to product and process innovation and the exploitation of results to contribute to Italy's development and competitiveness.
Since its creation in the 1960s, it has focused on applied research, technology transfer, and technical and scientific assistance to enterprises, associations, local communities, and central and local governments. Its institutional reference is the Ministry of Environment and Energy Security.
Areas of specialization are energy technologies where the Agency is also the coordinator of the National Energy Technology Cluster, nuclear fusion and safety, energy efficiency, cultural heritage technologies, seismic protection, food safety, pollution, life sciences, strategic raw materials, and climate change. Among emerging issues, ENEA supports companies and public authorities (Ministry of the Environment and Energy Security and Ministry of Enterprise and Made in Italy) in the transition to circular economy and resource efficiency.
To strengthen its activities, ENEA collaborates with several national and international research organizations and institutions and it participates in technology platforms and networks.
https://www.enea.it/it/

Finally, in terms of education, there are various institutes, schools and academies in Italy that work in the field of conservation and restoration of the national artistic and cultural heritage:

- La Venaria Reale Conservation and Restoration Center
- Central Institute for Restoration
- Opificio delle Pietre Dure
- Central Institute for the Pathology of Archives and Books
- Schools of artistic craftsmanship in Turin and its Province
- Academies of Fine Arts authorized by the Ministry of Education, University and Research to launch courses for the Restoration of Cultural Heritage (see below).

Below is a list of the Academies that offer courses:

- Brera Academy of Fine Arts in Milan
- Academy of Fine Arts of Bologna
- Academy of Fine Arts of L'Aquila
- Academy of Fine Arts of Macerata
- Academy of Fine Arts of Naples
- Academy of Fine Arts of Palermo
- Academy of Fine Arts of Verona
- Aldo Galli legally recognized academy of fine arts in Como
- Mario Sironi Academy of Fine Arts of Sassari.

https://www.miur.gov.it/restauro

Finally, the Universities of Cagliari and Sassari provide degree programs at different levels specializing in various aspects of cultural heritage:

University of Cagliari

- Bachelor of Arts in Cultural Heritage and Performing Arts
- Bachelor of Arts in Architectural Sciences
- Master's Degree in Archaeology
- Master's Degree in Art History
- Master's Degree in Architecture
- Graduate School of Archaeological Heritage
- Graduate School of Architectural and Landscape Heritage.

https://www.unica.it/it/didattica/corsi

University of Sassari

- Bachelor of Arts in Cultural Heritage
- Bachelor of Arts in Languages, Cultures and Techniques for Tourism
- Bachelor's degree in Architectural and Design Sciences
- Bachelor's degree in Urban Planning and city, territorial, environmental and landscape planning
- Master's Degree in Architecture
- Master's Degree in Planning and Policy for the City, the Environment and Landscape
- Master's Degree in Archaeology
- Master's Degree in Foreign Languages and Literatures for Cultural Mediation and Territorial Promotion
- Graduate School of Archaeological Heritage

https://www.uniss.it/didattica/offerta-formativa

5.h - Visitor facilities and infrastructure

Accommodation and visitor services

The 26 nominated monumental complexes, located across the whole regional territory of Sardinia, offer visitors with a very varied portfolio.

- Most of them, with the exception of 1 (*Orto del Beneficio Parrocchiale in Sennori*), are located in **the countryside**, at a distance from the town, *(2 to14-20 km depending on the site*) hosted by territories having **varied geomorphological characteristics**: some are part of mountain systems and have a lush vegetation; some are located in hilly areas and some are embedded in flat valleys. These aspects affect the accessibility and usability of sites.
- Some sites are located close to highly populated area with a particular tourist vocation and rich in services (*see Anghelu Ruju in Alghero, Li Muri in Arzachena or the two sites located along the Sassari–Porto Torres axis*): Some others, however, are embedded in sparsely urbanized areas, with low population density and the presence of communities mainly engaged in agriculture and livestock farming.
- A number of monumental complexes is **already musealized**, with the presence of a reception desk and various services for the benefit of the visitor (*guided tours, totems, audio guides, food court, restrooms*); others are still **unattended**, freely accessible, or in any case inside a fenced and closed area and therefore visitable only by reservation; others are still temporarily closed, due to the presence of excavations or by decision of the Superintendency (*see Pala Larga di Bonorva*) or the Municipality, that wishes to preserve their integrity.

Most of the sites are, however, accessible thanks to the presence of signs along the main access routes, enjoy more or less equipped food courts and/or parking lots.

Accessibility to the sites is not guaranteed for all categories of visitors; some rural complexes, due to their specificity and the morphology of the areas where they are located, are not always fully accessible to wheelchair users.

However, all the "places of culture" are equipped to offer increasingly effective and inclusive visits, expanding the ways they are presented to different audience groups, also taking into account different disabilities.

The accessibility and reception services present at all sites are specified and summarized in the tables below.

No.	Site	Municipality	External signs	Parking lots	Base	Website	Entrance	Guides/ audio guides	Accessibility	Services to visitors
001	Anghelu Ruju	Alghero	Signs are present both on the route and at the site entrance.	Parking area present at the site entrance.	The site is musealized and managed by the SILT cooperative.	Website is present, including much information; no reservations or remote ticket purchase.	Open daily with hours differentiated by period, with entrance fee.	Possibility of guided tour (bookable) or a multilingual audio-guide.	The site is accessible and usable by all subject categories.	Ticket office, shop and restrooms.
002	Puttu Codinu	Villanova Monteleone	The necropolis is located along the road, specially marked by signs.	Parking area present at the site entrance.	The site is musealized and managed by the Itinera cooperative from Alghero.	Dedicated page on the municipality's website. No reservations or remote ticket purchase.	Open daily, with hours differentiated by period, with entrance fee.	Guided tours in Italian and English available (bookable).	The site is accessible and usable by all subject categories.	Ticketing - The ticket offers the opportunity to visit Nuraghe Appio and the Sa Domo Manna Ethnographic Museum.
003	S'Incantu	Putifigari	Signs are present on the route leading to the site.	Parking area present 1 km from the site entrance.	The Domus is unattended and is currently closed by order of the mayor.	No website is currently present.	Once a week (for info, contact City Hall) there is no ticket but a free offering.	Upon reservation guided tours by volunteer guides.	Although the site is not hard to access, it is not available for people with motor disabilities.	There is no service near the site.
004	Monte Baranta	Olmedo	Funding for signs along the route and at the site already available.	Parking area available at site entrance that will be improved.	Site is unattended and undergoing redevelopment.	No website is currently present.	Currently closed to the public. Expected to the open by 2024.	Guided tours are possible only on special occasions.	It is possible to drive to the site entrance for those with walking impairment.	Ticket office with restrooms (temporarily not yet active).
005	Necropolis of Mesu 'e Montes	Ossi	Signs are present on the route leading to the site.	Large parking available along the road, before turning onto the small road leading to the site.	The complex is unmanned.	No website is currently present.	There is no entrance fee.	By reservation, the Pegasus Cooperative operates, which organizes tours for groups in various languages.	The site may not be accessed by people with motor disabilities.	There is no service near the site.
006	Sanctuary of Monte d'Accoddi	Sassari	Signs are present both on the route and at the site entrance.	There is outdoor parking (with limited spaces) and indoor parking along the driveway. Parking is available near the site for people with special needs.	The complex is musealized. Ticketing and guided tours are provided by the "Memoria Storica" Cooperative.	Website is present, including much information; no reservations or remote ticket purchase.	Open daily, Monday excluded, with hours differentiated by period, with entrance fee.	It is possible to visit the site on one's own (thanks to the presence of totems and QR codes) or accompanied by the guide in various languages.	The site is accessible and usable by all subject categories.	Ticket office, restrooms, multimedia space at the ticket office. Multipurpose space near the site, refreshment areas.

No.	Site	Municipality	External signs	Parking lots	Base	Website	Entrance	Guides/ audio guides	Accessibility	Services to visitors
007	Su Crucifissu Mannu	Porto Torres	There is no signage either along the road or in the path leading to the complex.	Limited parking area present close to the site.	The site is unattended and can be visited freely. The "Memoria Storica" Cooperative is in charge of its management and promotion.	Dedicated page on the municipal website and on the website of the "Memoria Storica" Cooperative. No reservations or remote ticket purchase.	Admission is free.	By reservation, guided tours are available in various languages, organized by the "Memoria Storica" Cooperative.	Although the site is not hard to access, it is partially available for people with motor disabilities.	There is no service near the site.
008	Orto del Beneficio Parrocchiale	Sennori	Signs are present both on the route and at the site entrance.	A multi-story parking lot is available.	It is unattended and access management is entrusted to the Municipality, which opens the entrance gate to the site at the request of interested people.	No website is currently present.	Admission is free, but the space is fenced.	The site may be visited on one's own by contacting the City Hall.	The site is accessible and usable by all subject categories.	Being an urban site, there are commercial activities in its vicinity.
009	Roccia dell'Elefante	Castelsardo	The site is not marked by any signs, but can be found easily.	There is a roadside space where cars can stop.	The site is currently unattended and can be visited free of charge.	No website is currently present.	Admission is free.	There is no guide or audio guide at the moment.	Although the site is not hard to access, it is partially available for people with motor disabilities.	There is no service near the site.
010	Li Muri	Arzachena	The complex is well marked by the presence of road signs at various points along the route.	There is free parking about 250 meters from the site.	The site is musealized and managed by GE.SE.CO. Arzachena.	Website is present, including much information; no reservations or remote ticket purchase.	Tours can be guided (upon request) or free or charge.	Possibility of guided tours in various languages.	The site is accessible and usable by all subject categories.	Dedicated shuttle bus, ticket office/infopoint with hall and restrooms. Possibility to purchase cumulative ticket for several sites in the surrounding area.
011	Petroglyph Park	Cheremule	The complex is well marked by the presence of road signs at various points along the route.	Near the gate bordering the park,there is a large flat area where parking is possible.	The site is unattended and can be visited free of charge.	No website is currently present.	Admission is free.	There is no guide or audio guide at the moment. There are explanatory signs at the entrance to the park.	The site is accessible and usable by all subject categories.	There is no service near the site.
012	Sa Coveccada Dolmen	Mores	The complex is well marked by the presence of road signs at various points along the route.	There is an area in front of the site that can be used as a parking lot.	The site is unattended and can be visited free of charge.	No website is currently present.	Admission is free.	The site may be visited with a guide (Italian and English) by contacting the City Hall.	The site is accessible and usable by all subject categories.	There is no service near the site.

No.	Site	Municipality	External signs	Parking lots	Base	Website	Entrance	Guides/ audio guides	Accessibility	Services to visitors
013	Shelter of Luzzanas	Ozieri	Currently there is no road sign.	A parking area is present, from which the new trail will start from the Romanesque Church of Sant'Antioco di Bisarcio.	The site is unattended and can be visited free of charge.	No website is currently present.	Admission is free but visitors must arrange with local guides and notify the landowner to open the gate.	Guided tours by reservation, contacting Istituzione San Michele.	Currently, the site may not be accessed by people with motor disabilities.	There is no service near the site.
014	Sant'Andrea Priu	Bonorva	The complex is well marked by the presence of road signs at various points along the route.	There is parking adjacent to the access road.	The site is attended and access is regulated by tickets.	Website is present, including much information; no reservations or remote ticket purchase.	Open daily, with hours differentiated by period, with entrance fee and possibility to purchase cumulative ticket to visit other sites.	Possibility of guided tours in various languages.	The monumental complex appears to be accessible by people with special needs, but not the entrance to the domus.	A wooden box with a reception point and shop is present. The ticket office, restrooms and a food court are about 600m away.
015	Sa Pala Larga	Bonorva	Currently there is no road sign.	It is possible to park in a free area near the archaeological site.	The site is closed and not usable by decision of the Superintendency, to safeguard its interior. A 1:1 copy is planned to be made.	No website is currently present.	Unavailable.	There is no guide or audio guide at the moment.	The route may not be walked by people with motor disabilities.	There is no service near the site.
016	Necropoli of Sos Furrighesos	Anela	Signage is currently present but not legible.	There is an area that can be used as parking in front of the private gate (which is open).	The site is unattended and can be visited free of charge.	No website is currently present.	Admission is free.	There is no guide or audio guide at the moment.	The route may not be walked by people with motor disabilities.	There is no service near the site.
017	Serra Linta	Sedilo	Signage is not available.	It is possible to park in a free area near the archaeological site.	The site is unattended and available only during some months of the year.	No website is currently present.	Admission is free. Being submerged part of the year it is, therefore, unavailable all the time.	There is no guide or audio guide at the moment.	The site is accessible and usable by all subject categories.	There is no service near the site.
018	Necropolis of Ispiluncas	Sedilo	Signage is present but scattered and unreadable.	Parking is present in front of the archaeological area.	The site is unattended and is located within a larger archaeological complex.	No website is currently present.	Admission is free.	Paid guided tours available during some events with shuttle bus service.	The route may not be walked by people with motor disabilities.	There is no service near the site.

No.	Site	Municipality	External signs	Parking lots	Base	Website	Entrance	Guides/ audio guides	Accessibility	Services to visitors
019	Necropolis of Mandras	Ardauli	Signage is present along the road and near the site, but still to be implemented.	There is wide space about 300 meters from the site.	The site is unattended and it is located in a private estate.	No website is currently present.	Admission is free.	There is no guide or audio guide at the moment.	The site is accessible and usable by all subject categories.	There is no service near the site.
020	Necropolis of Brodu	Oniferi	Signage is present but scattered.	It is possible to park near the archaeological site.	The site is unattended and it is located in a private estate.	No website is currently present.	Admission is free.	There is no guide or audio guide at the moment.	The site is accessible and usable by all subject categories.	There is no service near the site.
021	Necropolis of Istevéne	Mamoiada	An individual sign is present at the site entrance.	A parking area is available on the roadside near the site.	The site is unattended.	No website is currently present.	Admission is free.	Guided tours are made available by the cooperative that runs the mask museum.	The site is accessible and usable by all subject categories.	There is no service near the site.
022	Grotta Corbeddu	Oliena	There is an explanatory sign at the entrance to the site in Italian and English.	Parking area present close to the ticket booth.	The site is attended and the management is temporarily controlled by the Municipality, which operates through tourist guides.	Website is present, including much information; no reservations or remote ticket purchase.	Access is regulated by tickets and is possible all year round.	Guided tours in various languages, thanks to the presence of organizations working in the area. Explanatory panels available at the site.	The route may not be walked by people with motor disabilities.	Ticket office and restrooms. Well-equipped picnic area available.
023	Menhir of Cuccuru Tundu	Villa Sant'Antonio	Signs are present on the route leading to the site.	Parking area present around 800 m from the site entrance.	The site is unattended.	No website is currently present.	Admission is free.	There is no guide or audio guide at the moment.	The site may not be accessed by people with motor disabilities.	There is no service near the site.
024	Shelter of Su Forru de is Sinzurreddus and the stone tool workshops of Sennixeddu	Pau	There is currently little signage, in some cases equipped with QR codes.	It is possible to park near the archaeological site.	The site is unattended.	No website is currently present.	The area can be visited freely, or by guided tour that also includes admission to the Obsidian Museum.	By reservation, guided tours in Italian and French. Workshops are equipped with QR codes.	The site is accessible and usable by all subject categories.	There is no service near the site.
025	Pranu Mutteddu	Goni	Signs are present both on the route and at the site entrance.	Large parking area available.	The area is musealized and is managed by Cooperativa Pranu Mutteddu S.R.L.	Official website available providing all the information about the park. No reservations or remote ticket purchase.	Open daily, with hours differentiated by period, with entrance fee.	Guided tours in various languages. Guided tours in various languages. There are explanatory totems and signs inside.	The site is accessible and usable by all subject categories.	Multi-purpose welcome center, with ticket office, bar, restrooms and a small shop. Equipped pic-nic area.
026	Necropolis of Montessu	Villaperuccio	Signs are present both on the route and at the site entrance, soon to be increased.	Large parking area available near the ticket office and 30 m from the archaeological area.	The complex is musealized and managed by Consorzio Sistema Culturale di Villaperuccio.	Information and inquiries can be obtained on the website. No ticket purchase or reservations.	Open daily, with hours differentiated by period, with entrance fee.	Guided tours in various languages. There are explanatory signs inside the site.	The site is accessible and usable by all subject categories.	Reception center, ticket office, restrooms. Equipped food court to be assigned for external management.

To complement the information already provided by the table, all candidate sites, especially where a controlled and organized system of preservation and accessibility is not available, promotional projects aimed at improving their usability are being implemented (*on this matter, refer to par. 5f*).
The nomination as a UNESCO World Heritage Site has induced local public administrations and other stakeholders to allocate funds and implement projects, not only for conservation, but also for the development and enhancement of the sites in terms of tourism.

Hospitality and accommodation
As mentioned several times, the 26 nominated monumental complexes, are located in a very large area that includes 4 Provinces of the Region of Sardinia and 24 Municipalities, which have very different characteristics, both in size, population density, and vocation.
Hospitality services are, therefore, varied and with different characteristics, but still sufficient to welcome and accommodate visitors with different needs and objectives.
Sardinia's vocation for tourism guarantees a wide range of hotel and non-hotel accommodations, in facilities that may vary from luxury hotels in some areas of the North Sardinian coast, to B&Bs and holiday farms in rural areas and small towns.
Most hotel accommodations located along the coasts, where beach tourism is more popular (*such are Arzachena, Castelsardo, Alghero*) are not available during the winter season. The problem is partially solved by the presence of non-hotel accommodation (*B&B, room rentals and holiday farms*) offering, on the other hand, a year-round accommodation.
Adjacent to all monumental complexes, there are, in addition, other useful services for visitors, which are specified and summarized in the following table.

No	Municipality	Site	Transport system	Public services	Accommodation	Stores	Typical products
001	Alghero	Anghelu Ruju	Alghero Airport, Alghero, Olmedo train stations; ARST stop.	1 doctor-on-call 2 hospitals 10 pharmacies 4 post offices 8 banks 1 carabinieri station 1 state police	The area is highly tourist-oriented; there are 1,391 accommodation facilities with 18,563 certified beds. Food services are highly developed in all their forms.	There are numerous stores of all kinds.	Coral, wine, oil. There are more than 30 production/marketing activities of typical products.
002	Villanova Monteleone	Puttu Codinu	Arst stop	1 doctor-on-call 1 pharmacy 1 post office 1 bank 1 carabinieri station	There are 23 accommodation facilities in the area with a total of 160 beds. There are also 10 food services.	There are 7 grocery stores and 1 pastry shop.	Textile production, wood carving and basket weaving.

No	Municipality	Site	Transport system	Public services	Accommodation	Stores	Typical products
003	Putifigari	S'Incantu	Arst stop	1 pharmacy 1 post office 1 bank 1 carabinieri station	There are 3 accommodation facilities in the area with a total of 22 beds. There are also 3 food services	There are 2 grocery stores.	Production of typical fresh pasta.
004	Olmedo	Monte Baranta	Alghero airport Olmedo train station Olmedo bus station	1 pharmacy 1 post office 1 bank 1 carabinieri station	There are 41 accommodation facilities in the area with a total of 240 beds. There are 15 food services.	There are 5 grocery stores, 1 pastry shop, 1 local produce store.	Cheese and bread.
005	Ossi	Necropolis of Mesu 'e Montes	Arst stop	1 doctor-on-call 2 pharmacies 1 post office 3 banks 1 carabinieri station	There are 14 accommodation facilities in the area with a total of 55 beds. There are 27 food services, including 13 bars and 14 restaurants/pizzerias.	There are 9 grocery stores, 2 pastry shops and 1 wine store.	Wine, cured meat and sweet production.
006	Sassari	Sanctuary of Monte d'Accoddi	Sassari train station; Porto Torres maritime station; Porto Torres train station; Alghero Fertilia Airport.	1 doctor-on-call 1 general hospital 30 pharmacies 11 post offices 30 banks 2 carabinieri stations 1 police station	There are 227 accommodation facilities in the area with a total of 2,293 beds. Catering is highly developed in all its forms throughout the target area and neighboring municipalities.	Sassari has a large number of grocery stores, pastry shops, wine stores, and typical produce stores.	Wine, cheese, typical sweets, oil.
007	Porto Torres	Su Crucifissu Mannu	Porto Torres maritime station; Porto Torres railway station.	8 pharmacies 1 doctor-on-call 4 banks 4 post offices 1 police station 1 carabinieri station	There are 98 accommodation facilities in the area with a total of 822 beds. More than 100 food services are present.	Porto Torres has a large number of grocery stores, pastry shops, wine stores, and typical produce stores.	Wine, typical sweets.
008	Sennori	Orto del Beneficio Parrocchiale	Sorso Train Station Sennori Bus Stop.	2 pharmacies 1 post office 1 bank 1 carabinieri station	There are 98 accommodation facilities in the area with a total of 822 beds. There are also 26 food services.	There are 7 grocery stores, 4 pastry shops and 1 wine store.	Wine, typical sweets.

No	Municipality	Site	Transport system	Public services	Accommodation	Stores	Typical products
009	Castelsardo	Roccia dell'Elefante	"Castelsardo La Pianedda" bus stop.	1 doctor-on-call 2 pharmacies 2 post offices 2 banks 1 carabinieri station	There are 205 accommodation facilities in the area with a total of 3083 beds. There are, in addition, 29 bars and 40 restaurants/pizzerias.	There are 13 grocery stores, 4 pastry shops, 8 wine stores, 3 local produce stores.	Baskets made of asphodel, rushes, dwarf palms and sea hay; coral jewelry and the gold filigree.
010	Arzachena	Li Muri	Olbia Airport; Olbia Maritime Station; Bus Stop; Arzachena Caldosa Station.	1 doctor-on-call 8 pharmacies 2 post offices 7 banks 1 carabinieri station 1 state police	The area is highly tourist-oriented; there are 506 accommodation facilities with 16,509 beds. There are more than 20 bars and 25 restaurants/pizzerias.	There are numerous stores of all kinds.	Wine, typical sweets.
011	Cheremule	Petroglyph Park	"Unione dei Comuni" bus; stop at via B. Cugusi.	1 pharmacy 1 post office	There are 17 accommodation facilities in the area with a total of 112 beds.	No store is available.	The area is famous for sheep milk cheeses.
012	Mores	Sa Coveccada Dolmen	Mores train station.	1 pharmacy 1 doctor-on-call 1 post office 1 bank 1 carabinieri station	There are 2 accommodation facilities in the area with a total of 26 beds. There are 9 food services.	There are 4 grocery stores, 2 pastry shops and 1 bakery.	Cheeses (pecorino romano and ricotta) typical desserts.
013	Ozieri	Shelter of Luzzanas	Bus stop at Ozieri Piazza S. Sebastiano; Chilivani train station.	1 doctor-on-call 1 general hospital 5 pharmacies 1 post offices 4 banks 1 carabinieri station 1 police station	There are 14 accommodation facilities in the area with a total of 195 beds. There are 14 bars and 13 restaurants/ pizzerias.	There are 11 grocery stores, 6 pastry shops, 2 wine stores, 1 local produce stores.	The spianata (typical bread), Cheeses, (the greviera) sweets (the sospiri), wine.
014 015	Bonorva	Sant'Andera Priu and Sa Pala Larga	Bonorva train station; Macomer railway station	1 doctor-on-call 1 pharmacy 1 general hospital 1 post office 1 bank 1 carabinieri station	There are 10 accommodation facilities in the area with a total of 80 beds. There are 16 food services (9 bars and 7 restaurants/pizzerias).	There are 6 grocery stores and 2 pastry shops.	Cheeses, typical sweets.
016	Anela	Necropoli of Sos Furrighesos	Bus stop at “Bono piazza Gramsci”.	1 pharmacy 1 post office	There are 7 accommodation facilities in the area with a total of 83 beds. There are 2 bars.	There are 2 grocery stores.	Cheeses.
017 018	Sedilo	Necropolis of Ispiluncas and Village of Serra Linta	Bus stop at Via Carlo Alberto FR 14	1 doctor-on-call 1 pharmacy 1 post office 1 banks 1 carabinieri station	There are 3 accommodation facilities in the area with a total of 16 beds. There are 8 bars and 4 restaurants/ pizzerias.	There are 5 grocery stores, 1 pastry shop, 1 local produce store.	Cheeses, typical sweets.

No	Municipality	Site	Transport system	Public services	Accommodation	Stores	Typical products
019	Ardauli	Necropolis of Mandras	Bus stop at Ardauli Viale Gramsci Municipio.	1 pharmacy 1 post office 1 doctor-on-call 1 carabinieri station 1 bank	There is 1 accommodation facility in the area with a total of 4 beds. There are 3 bars and 2 restaurants/ pizzerias.	There are 2 grocery stores.	Wine, oil, and typical sweets. A type of oregano called "sa nebidedda" and su Ortau (pre-cooked pork sausage).
020	Oniferi	Necropolis of Brodu	Oniferi train station.	1 post office 1 carabinieri station 1 pharmacy	There is 1 accommodation facility in the area with a total of 12 beds. There are 3 restaurants/pizzerias and 2 bars.	There are 1 grocery stores and 1 pastry shop.	Oil and wine.
021	Mamoiada	Necropolis of Istevéne	Bus stop at Piazza Europa.	1 doctor-on-call 1 pharmacy 1 post office 1 bank 1 carabinieri station	There are 15 accommodation facilities in the area with a total of 115 beds. There are 7 restaurants/pizzerias and 8 bars.	There are 2 grocery stores, 2 pastry shops, 1 local produce store, 1 wine store.	Wine, traditional masks.
022	Oliena	Grotta Corbeddu	Bus stop at Oliena Via Nuoro	1 doctor-on-call 2 pharmacies 1 post office 1 bank 1 carabinieri station	There are 53 accommodation facilities in the area with a total of 432 beds. There are 27 bars and 11 restaurants/ pizzerias.	There are 9 grocery stores, 3 pastry shops, 3 local produce stores, 1 wine store.	Wine, oil, typical sweets, cheese and various handicrafts (carpets, tapestries, goldsmithing, wrought iron, woodworking, ceramics and leather goods).
023	Villa Sant'Antonio	Menhir of Cuccuru Tundu	Bus stop at Villa Sant'Antonio Via F. Cau.	1 post office 1 pharmacy	There are 2 accommodation facilities in the area with a total of 6 beds.	There are 1 grocery store.	Cereals, wine.
024	Pau	Su Forru de is Sinzurreddus Stone tool workshops of Sennixeddu	ARST stop (Viale Marmilla).	1 pharmacy 1 post office	There are 4 accommodation facilities in the area with a total of 29 beds. There is 1 bar/bistrot.	There are 2 grocery stores.	Traditional typical bread.
025	Goni	Pranu Mutteddu	ARST stop (Goni Piazza Santa Barbara)	1 pharmacy 1 post office	There is 1 accommodation facility in the area with a total of 6 beds. There are 2 bars.	There are 1 grocery store.	Cork, honey and goat milk.
026	Villaperuccio	Necropolis of Montessu	Bus stop at Via Nazionale.	1 pharmacy 1 post office	There are 2 accommodation facilities in the area with a total of 14 beds. There are 7 food services.	There are 3 grocery stores, 1 pastry shop.	Wine.

It is believed that the UNESCO inscription will improve cultural tourism in Sardinia. This factor, that is crucial for the expansion of seasonality (*typical of the Region*), needs to be improved in two ways:

- Develop hospitality, especially non-hotel accommodation, in inland rural areas, which are less prone to tourism.
- Support operators for an extension of opening times in other seasons.

In this regard, some local governments are taking action to raise awareness among residents and operators of the various areas concerned, toward alternative forms of accommodation that are more flexible (*home restaurant, B&B's, guest houses, etc.*).

5.i - Policies and programmes related to the presentation and promotion of the nominated property

The "Art and Architecture in the Prehistory of Sardinia. *The domus de janas*" nomination project encouraged initiatives aimed at presenting the nominated property to the public and communicating the principles and objectives pursued by UNESCO.

The project was backed by the Universities of Cagliari and Sassari, the Federation of Sardinian Associations in Italy (FASI), the Chambers of Commerce of Nuoro, Oristano and Cagliari, the Touring Club, as well as the patronage and support of the Autonomous Region of Sardinia.
The nomination was presented through different communication and information channels. These activities were promoted and organized by CeSIM/APS, the Network of Municipalities (particularly the municipalities involved) or other organizations such as universities, Third Age Universities, associations, clubs, newspapers and magazines, television networks and publishing houses. The peripheral bodies of the Ministry of Culture have also participated in these events with valuable speeches, reports and technical contributions.
Numerous scientific and communication events have been held recently. In the first case, the aim has been to disseminate the results of scientific research. In the second case, the aim has been to raise awareness and increase knowledge of Sardinian prehistory and its material remains, with a special focus on monumental complexes and artistic motifs that are included in this nomination.
Knowledge was/is a fundamental element that contributes to the preservation of monuments and thus to their transmission to future generations.

ARCHEOLOGIA
Domus de janas
L'arte dei sardi
prima della storia
Giuseppa Tanda ha indagato per decenni le sepolture preistoriche dell'isola e le loro originali decorazioni
Patrimonio meritevole del riconoscimento Unesco
Da oltre quarant'anni
a servizio della vostra sicurezza
LA NUOVA
LA NUOVA

Communication-dissemination activities

Starting with the *"Decorated* domus de janas: Heritage for Humanity?" conference held in Nuoro on Oct. 26, 2018, CeSIM has organized conferences and conventions throughout Sardinia to promote the nomination and the nominated property, and to communicate project developments.

On April 9, 2021, following the positive opinion of the Ministry of Culture (MiC), in consultation with the Italian National UNESCO Commission (CNIU), the nomination submitted by CeSIM and the Network of Municipalities of the domus de janas *domus de janas* was published in the UNESCO Tentative List (https://whc.unesco.org/en/tentativelists/6523/).
The project was officially submitted on July 8, 2022 at Palazzo della Provincia in Sassari and later at the November 5, 2022 conference held in Villaperuccio.

In order to encourage the involvement of the local communities residing in the municipalities involved, conferences regarding the nomination project were held (including, in the year 2023, in Sedilo, Villaperuccio, Cheremule, Pau, and Ardauli) and guided tours were organized to archaeological areas, both included in and excluded from the nomination. These communities have been able and will continue to benefit from the nomination in economic, cognitive and social development terms.

CeSIM/APS promoted an awareness-raising project entitled "Noi e l'UNESCO. La Sardegna preistorica" at several secondary schools in Cagliari, Olbia, and Oristano, involving boys and girls, aged 11 to 19.
During the 2022-2023 school year, in line with the actions planned for the dissemination of the project, a series of educational paths were implemented. The purpose of these activities is to raise awareness and transfer issues related to archaeological heritage and sustainable land development to new generations. Theoretical classroom lessons were carried out, which were followed by laboratory-experiential activities where children could be exposed firsthand to the main artistic-pictorial techniques reported in the Prehistory of Sardinia. The scope of intervention outlined in the ministerial guidelines (attached to Ministerial Decree 35/2020) is "Sustainable Development". Specifically, the topic concerns the "Identification and protection of the landscape and artistic and cultural heritage of the nation/protection of the tangible and intangible heritages of communities."

On March 22, 2023, a memorandum of understanding was signed with Liceo Statale Margherita di Castelvì in Sassari. This collaboration led to the launch of a photographic exhibition on May 4, 2023, focusing on the Sardinia Prehistory, entitled *Sinnos* ("Signs"). It was an opportunity to reflect on the people who inhabited Sardinia in the period between 6000 and 1800 BCE.

The activities carried out in collaboration with schools are of fundamental importance, so that even the youngest learn about the history of their territory and become more aware of the respect and preservation of monuments, which are part of a fundamental heritage not only for the inhabitants of the island, but for the whole world.
For 2024, new projects and activities are planned in collaboration with Gruppo Archeologico Kalaritano (GAK), funded by the Prime Minister's Office, with lower and upper secondary schools in Cagliari, Ghilarza, Ittiri and Porto Torres, involving children aged 11 to 17. The title of the project is "Educare insieme. I colori dell'eternità. Segni del passato, sogni del futuro" (Educating together. The colors of eternity. Signs of the past, dreams of the future."

Participatory and popular events have been organized by national and local organizations, clubs and associations:

- the Cagliari UNESCO Club, affiliated with the Italian Federation of UNESCO Clubs (FICLU). The FICLU is a Non-Governmental Organization associated with the World Federation of UNESCO Clubs, Centers and Associations (FMACU). It is the only Non-Governmental Organization that has the right to bear the wording UNESCO, of whose ideals and objectives of action it is the interpreter in the local context. The FICLU was launched on October 4, 1979, bringing together the UNESCO Clubs and Centers operating in Italy.
- Rotary Club of Cagliari and Sassari. Rotary is an international association of service clubs. Their members commit themselves together for the good of others; this commitment refers to humanitarian, social, health, cultural or educational purposes.
- Inner Wheel Italy - Club of Sassari. The International Inner Wheel is a women's association closely linked to Rotary, whose ideals, goals and objectives are shared.
- Soroptimist Club Cagliari. Soroptimist International is a nonprofit service club organization that brings together women with high professionalism, and works through projects directed toward the advancement of the status of women, promotion of human rights, acceptance of diversity, development and peace.
- Touring club in Cagliari. The Touring club is a nonprofit association with the purpose of promoting tourism throughout Italy.
- The Third Age Universities of Sassari and Alghero. The Third Age Universities are cultural centers recognized by the Regions, the purpose of which is to promote culture and encourage the inclusion of the elderly in the social and cultural life of their city. The courses organized by these "universities" are varied and often relate directly to the social context where they are based. People with any educational level can participate in the courses.
- Gruppo Archeologico Kalaritano (GAK). This is a cultural association that aims to promote and disseminate knowledge of the ancient world and archaeological heritage. GAK is linked to the Italian Archaeological Groups (GAI) having a Secretariat in Rome.

Several initiatives have been organized by municipalities and cultural associations, including:

- *Trexenta Experience*, an experiential tourist event organized in the archaeological remains of the Trexenta territory, a historical sub-region of Sardinia.
- *Archeomusicando*, an event based in Mamoiada, organized by the Ventu Pintau Association, which aims to promote archaeological heritage through conferences, guided tours, workshops and concerts).
- *Archeotour Illorai*, an archaeological event created in 2018 with the aim of presenting the archaeological heritage of the Municipality of Illorai to the public, organized jointly by CeSIM, the Municipality of Illorai, the Civil Service and the Superintendency of reference, funded by Fondazione di Sardegna. The event also received national coverage, appearing on the Rai 3 news broadcast regional edition (TG3).

There are several reports in the media about the nomination. Geo, the popular Rai 3 TV show that has been chronicling the wonders of Italy for years, devoted an in-depth look at the *domus de janas* and the nomination of Sardinia's prehistoric monuments on May 16, 2023. The show hosted by Sveva Sagramola and Emanuele Bigi, has focused for decades, among other things, on educating the audience on the environments where human beings and nature have coexisted and integrated, creating unique landscapes which need to be protected and promoted.

There are numerous articles by local, regional and national magazines, including online. On the web, the blog on the CeSIM website (https://www.cesimsardegna.com/) and on social media, particularly Facebook (Domus de Janas Patrimonio dell'Umanità), Instagram (preistoriasarda_unesco) and YouTube (CeSim Sardegna) have been actively participated.

Tourist and cultural promotional activities

Regarding tourist-cultural events, since 2021 CeSIM has been participating in *Archeologika*, an exposition of Archaeological Tourism in Sardinia, developed by the Tourism Department of the Autonomous Region of Sardinia, to promote the image of Sardinia and its great archaeological heritage nationally and internationally.

In addition, CeSIM took part in the eighth edition of the Exposition of Cultural Tourism in Sardinia (held in Barumini on December 2-3, 2022): it is one of the most relevant events for the promotion of the island's cultural tourism, as well as a national and international showcase for Sardinian tourist products.

CeSIM and Rete dei Comuni delle Domus de Janas also presented the nomination project outside the island: first, at the VII National Congress of the Federation of Sardinian Associations in Italy (FASI), held in Milan, on December 10-12, 2021, and in 2022, at the Turin International Book Fair, a project launched in 1988 by Guido Accornero.
The Book Fair is curated by Associazione Torino, Città del Libro and Fondazione Circolo dei lettori, and is the most important publishing event in Italy and among the largest in Europe.

In 2023, the nomination was presented to the Festival of the Regions and Autonomous Provinces in Turin, organized by the Conference of Regions and Autonomous Provinces, where, along with natural beauty and food and wine excellence, the prehistoric and protohistoric archaeological heritage of Sardinia was described.

Scientific activities

Scientific events included an international inter-university workshop on archaeological restoration in March 2023, with professors and students from the Schools of architecture of Cagliari and Portsmouth (UK), which focused on the conservation and protection of the prehistoric monuments of Villaperuccio and Pimentel. The initiative was supervised by University of Cagliari professors Giovanna Concu, Donatella Rita Fiorino and Elisa Pilia, in collaboration with lecturers Milena Metalkova-Markova and Tarek Teba from the British university.
Chemical analyses of the pictorial components to identify the nature of the pigments and organic binders are being conducted in cooperation with the University of Pisa for the purpose of dating and chemical profiling.
Fondazione di Sardegna has granted CeSIM financial resources for the development of a catalog of the *domus de janas* decorated with carved motifs, that will be made available in printed and digital format.
Excavations in the necropolis of Molia-Illorai are in progress, in collaboration with the University of Cagliari.
In addition, the nomination project has been presented and promoted

through other communication channels; the most relevant is undoubtedly publishing: there are numerous publications concerning the nominated property, written by a number of authors.
There is a great number of scientific papers, in particular, and it would be impossible to cite them all here, so reference should be made to the bibliography included in section 7.e of the Dossier.

Recent publications include the nomination presentation volume "Art and Architecture in the Prehistory of Sardinia. (Tentative List UNESCO 2021). The *domus de janas*" (G. Tanda *et al.* 2023) and two new tourist guides: "La necropoli di Anghelu Ruju" (L. Usai, 2023) and "La necropoli preistorica di Montessu" (G. Paglietti, R. Cicilloni 2023).
The publications curated by CeSIM were supplemented by public presentations and press conferences.

The *"Janas. La Sardegna preistorica dal VI al III millennio a.C." exhibition* will promote the archaeological evidence found in Sardinia during the Neolithic and
Copper Ages. During that period of time, the island became part of the cultural circuits of the Mediterranean, continental Europe and the Eastern area, developing elements of great value and originality in craft, artistic, architectural and religious perspective.
The design will include a mobile set-up, so that the exhibition can be disseminated to different locations on the island, the peninsula and abroad.

A remote conference on hypogeism in Europe and Africa entitled "*Hypogéisme funéraire en Europe et en Afrique*" was held between September 2-7, 2021 as part of the UISPP International Conference held in Meknès, Morocco, with the participation of some 30 scholars for a total of 19 communications.

The grant allocated by Regional Law no. 1 of Feb. 23, 2023, Italian Stability Law 2023, Art. 13, Paragraph 28 will be used for the production of a promotional video, an international conference and a traveling exhibition, for the purpose of promoting the UNESCO Heritage nomination of the "Art and Architecture in the Prehistory of Sardinia. Le *domus de janas*". The 90-second video including 30-second excerpts will focus on "Sardinia, crossroads of cultures."

In October 2024, an International entitled "*Sardinia, a crossroads of peoples and cultures. Hypogeism and megalithism in Europe and the Mediterranean between the 5th and 3rd millennia BCE*" is planned.

5.j - Staffing levels and expertise

Managing, maintaining, protecting, and promoting the 26 monumental complexes covered by the nomination, spread across an entire region, requires the support and operation of a variety of staff, including specific professionals - such as *archaeologists, architects, historians, restorers, engineers, tour guides,* etc.; - other technicians who maintain, clean, and inspect the sites.
Some of the personnel work for the municipal administrations where the complexes rest: they are mainly scientific and administrative public servants (*architects, archaeologists, engineers*).
In most cases, the staff is hired by private organizations (*cooperatives, consortia, associations*) which are appointed by the administration for the management and surveillance of the sites (*in-house public companies or appointed organizations*): in addition to scientific profiles, in this case, they are mainly operational staff and tour guides.

In one case (*such as the Sanctuary of Monte d'Accoddi in Sassari*), the Regional Directorate of Sardinian Museums is responsible for it.
At sites that are not currently musealized or manned, sometimes both technical and scientific volunteers work in the area.
In addition, it is also appropriate to consider the staff of organizations directly under the control of the Ministry of Culture, such as the **Superintendence of Archaeology, Fine Arts and Landscape for the Metropolitan city of Cagliari and the Provinces of Oristano and Sud Sardegna and the Superintendence of Archaeology, Fine Arts and Landscape**

for the Provinces of Sassari and Nuoro, the Regional Secretariat and the Directorate of Sardinian Museums.

Below are the summaries of the personnel involved in the management, maintenance and promotion of the sites.

Qualification	Full time	Part time	External collaborators	Volunteers	Total
Research staff (archaeologists, architects, engineers, historians, geologists, etc.)	7		9	7	23
Technical staff (computer scientists, graphic designers, photographers, librarians, etc.)	1	2	8	4	15
Operational staff (ticket office, info-point, shop, maintenance, cleaning, etc.)	2		40	4	48
Administrative staff	8	1	3	2	14
Tourist guide			30	4	37
Press office/educational service		1	2	2	5
Total	**18**	**4**	**92**	**23**	**142**

Summary table of personnel in charge, under administrations and organizations managing monument complexes

The UNESCO label will have major effect on the personnel employed at various levels in the various monument complexes, once they are all made fully accessible and open to the public.
This will entail, not only continuous and constant maintenance, but above all, surveillance, that will result in qualified personnel required to take care of the reception, promotion and usability of the sites.

Qualification	Full time	Part time	External collaborators	Total
Research staff (archaeologists, architects, engineers, historians, geologists, etc.)	5	16		21
Technical staff (computer scientists, graphic designers, photographers, librarians, etc.)	6	7		13
Operational staff (ticket office, info-point, shop, maintenance, cleaning, etc.)				
Administrative staff	1	9		10
Tourist guide				
Press office/educational service		4		4
Total	**12**	**36**	**0**	**48**

Summary table of personnel reporting to the Ministry of Culture
(Superintendence of Archaeology, Fine Arts and Landscape for the Metropolitan city of Cagliari and the Provinces of Oristano and Sud Sardegna and Superintendence of Archaeology, Fine Arts and Landscape for the Provinces of Sassari and Nuoro; Regional Secretariat).

DOMUS DE JANAS

ARTE E ARCHITETTURA NELLA PREISTORIA DELLA SARDEGNA.

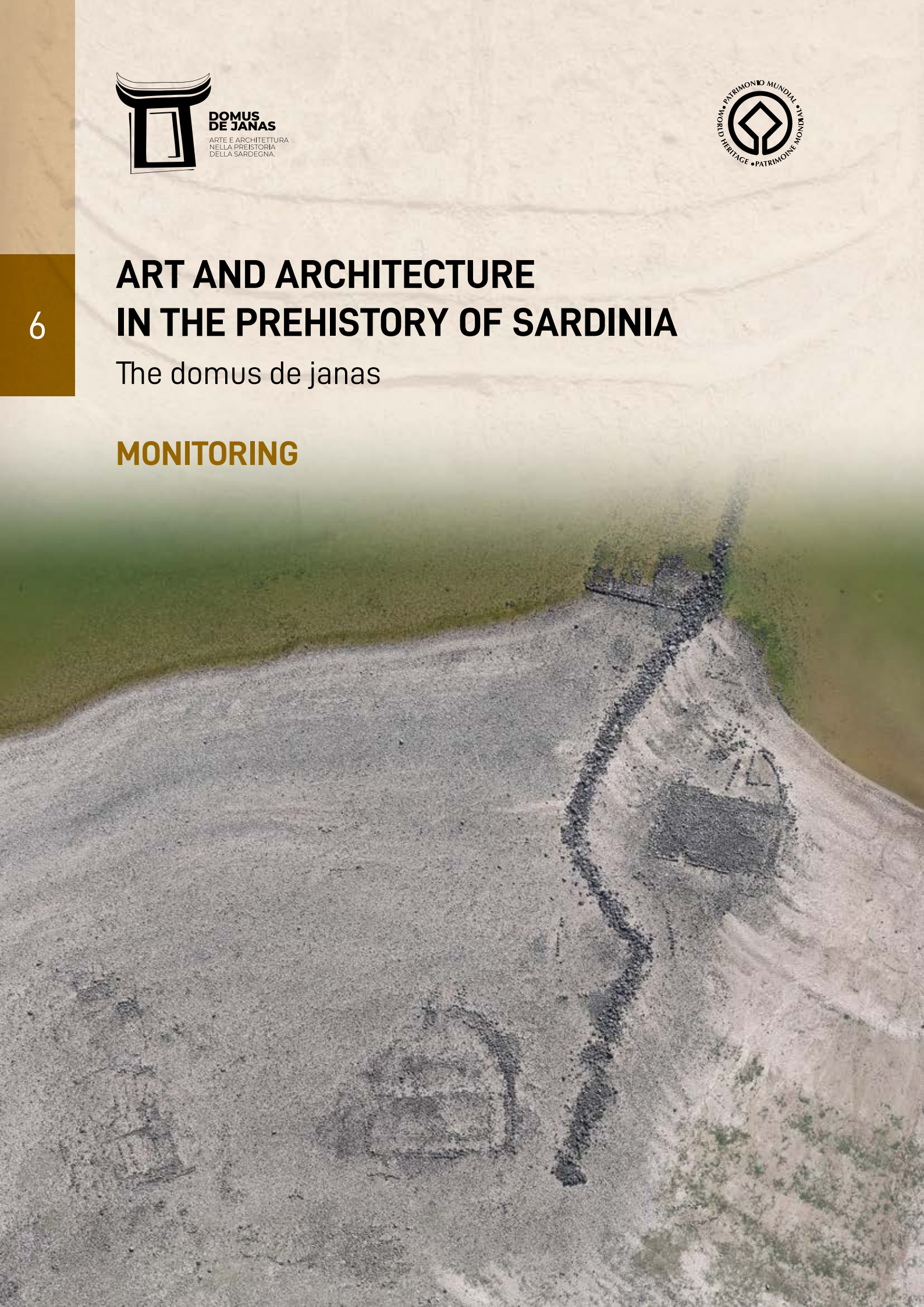
PATRIMONIO MUNDIAL • WORLD HERITAGE • PATRIMOINE MONDIAL

6

ART AND ARCHITECTURE IN THE PREHISTORY OF SARDINIA

The domus de janas

MONITORING



MONITORING

6.a - Key indicators for measuring state of conservation

Monitoring the conservation status of a Nominated Property is a particularly important moment to pass its universal values to future generations. The proposed key factors were identified with the aim of constructing a rigorous, objective, effective and updatable tool capable of recording the health conditions of monuments, assessing the *trend* of degradation processes, but also verifying the timeliness and effectiveness of the maintenance and restoration actions that will be implemented over time. As a matter of fact, monitoring seeks to identify threats or impacts that may undermine the universal values of the property, with particular attention to the aspects of authenticity and integrity, already defined in Chapter 3: the Declaration of Outstanding Universal Value is, in fact, the reference point also for the drafting of monitoring strategies.

The starting point for monitoring the conservation status of each asset and the Site as a whole is the condition described in Chapter 4, that serves as "ground zero" for monitoring. Although there are several cases when monitoring certain factors, especially environmental and structural ones, has already been prompted - such as Sa Pala Larga (no. 15), Sa Coveccada (no. 12), Monte d'Accoddi (no. 06), Mandras (no. 19) -, it is believed that only through the simultaneous application of a common protocol to the entire set of assets and the systemisation of the findings of the surveys carried out on individual sites, can we reach a full awareness of the processes of alteration and degradation and, as a result, feed a virtuous process of constant care of the sites and the planning and implementation of truly effective conservation and promotional measures. This applies both to the understanding of risk factors and the conditions that can accelerate or slow down degenerative processes, and to have operation implemented in the past on individual monuments stand the "test of time", in order to assess the appropriateness - depending on the outcomes - of re-using or rejecting the use of methods and solutions already tested in similar type and environmental conditions.
The system of indicators, illustrated in detail in Tables 6.a.1, 6.a.2, 6.a.3, is divided into three groups:

1. Archaeological monuments, areas and contexts (Table 6.a.1)
2. Environmental, landscape and territorial factors (tab. 6.a.2)
3. Recognition, participation and dissemination (tab. 6.a.3)

As for the **indicators included in the first group** (tab. 6.a.1), it is useful to remind the contents of Chapter 4: the monuments included in the serial property, by nature, are the material testimonies to civilisations that would otherwise be unknown. Therefore, **monitoring the conservation of authentic materials should be a priority in management strategies.** With this in mind, monitoring will provide valuable information for the asset manager, who will be able to verify through this process the existence of potential or actual problems, the effectiveness of the protection, conservation and management actions implemented with respect to the actual achievement of the set objectives, or the possible need for corrective actions. In particular, **the first category of indicators** (I) is dedicated to monitoring the most important universal value, i.e. **the monument integrity**, through the **control of the most vulnerable elements** already described in Chapter 4: slope stability and safety; structural damage, lesions, cracks and collapses; mechanical aggression by tree species, the presence of weeds, the covering of surfaces by compact biological patinas, especially in the case of hypogea; erosions and detachments triggered by environmental, geological and/or intrinsic factors to the lithological nature of the artifacts.

Indicator categories II-IV concern the ability to keep the excavation, maintenance and restoration of the works

		Category of actions and interventions	No.	Indicator / units	Periodicity/ Frequency	Registration notes (location/location, tools, etc.)	Entity responsible for registration
1	I	Impact on the integrity of monument	1	Slope stability issues [m³ of soil/rock involved]	Thee-year, unless specifically required at sites affected by instability or in areas of medium and high hydrogeological risk (see Ch. 4).	Identification of landslide mechanisms at the slope scale, calculation of volumes involved, and activity assessment should be carried out using a properly designed monitoring system that meets the criteria defined by current official technical standards and guidelines. The design of the monitoring system should take into account the detected or potential stability conditions of sites and access routes. If risk mitigation works are in place, the monitoring system should periodically check their effectiveness.	Autonomous Region of Sardinia and relevant territorial entity(ies).
			2	Number of artifacts showing structural problems, fractures or collapses [No. of artifacts] and number of artifacts [%] on which interventions have been carried out compared to the No. of cases reported.	Two-year, except for specific requirements at sites affected by kinematics or ongoing structural instability phenomena (see Ch. 4)	The number of artifacts showing problems will be detected following the constant inspection of all monuments belonging to the Site and the preparation of a detailed and thorough report, starting with the condition described in Ch. 4. Investigations will be carried out periodically according to a precise monitoring plan by specialized personnel, by means of autoptic examination and the use of possible instrumental surveys depending on the severity and urgency of the phenomena. The evolution of the crack pattern will be evaluated by digital millesimal meters or equivalent instrumentation located according to the indications of the monitoring plan, and the data will be recorded in a dedicated database for the interpretation of the phenomenon. Regarding the number of interventions, reference is made to all material actions put in place to curb risks or damage, including instrumental monitoring campaigns, consolidations, etc.	Managing entity with the collaboration of competent scientific groups (Universities, Research Institutes) and Superintendency's High Supervision.
			3	Number of sites affected by invasive vegetation [No.] and number of sites [%] where interventions were carried out compared to the No. of cases reported.	Two-year	The number of sites showing the problem will be determined following the survey and verification of all monuments included in the Site, starting with the condition described in Ch. 4.	Managing entity with the supervision of the Regional Forest Agency for the Development of the Territory and Environment of Sardinia (Fo.re.s.t.a.s), and the Superintendency's' High Supervision.
			4	Number of artifacts that show conservation problems related to environmental and/or microclimatic factors (water, aerosols, pollution) with deterioration of surfaces and paintings [No. of artifacts] and number of artifacts [%] where interventions have been carried out compared to the No. of cases reported.	Two-year	The number of sites showing the problem will be determined following the survey and verification of all monuments included in the Site, starting with the condition described in Ch. 4. Regarding the number of interventions, reference is made to all material actions put in place to curb risks or damage, including instrumental microclimate monitoring campaigns, sampling, and instrumental diagnostics.	Managing entity with the collaboration of competent scientific groups (Universities, Research Institutes) and Superintendency's High Supervision.
			5		Two-year	The number of sites showing the problem will be determined following the survey and verification of all monuments included in the Site, starting with the condition described in Ch. 4. Regarding the number of interventions, reference is made to all material actions put in place to curb risks or damage, including sampling, and instrumental diagnostics.	Managing entity with the collaboration of competent scientific groups (Universities, Research Institutes) and Superintendency's High Supervision.
2	II	Conservation and restoration	1	Conservative restoration work on artifacts [No. of artifacts subject to intervention].	Three-year	The Managing Authority will take care of the planning and keep a digital copy of all projects and documentation related to the sites where interventions were carried out, keeping an update on the "current" state of conservation of the artifacts.	Managing entity with the collaboration of competent scientific groups (Universities, Research Institutes) and Superintendency's High Supervision.
			2	Protection, accessibility and use interventions aiming at improving the safety conditions and interpretation of monuments [No.]	Three-year	The Managing Authority will take care of the planning and keep a digital copy of all projects and documentation related to the sites where interventions were carried out, keeping an update on the "current" state of conservation of the artifacts.	Managing entity with the collaboration of competent scientific groups (Universities, Research Institutes) and Superintendency's High Supervision.
			3		Three-year	The indicator takes into account all types of projects and interventions in order to monitor management in relation to effectiveness and timeliness in implementing tangible actions to meet conservation needs.	
3	III	Excavation activities	1	Authorized excavation projects [No.].	Two-year	The Managing Body will maintain the scheduling and keep a digital copy of all projects.	Managing entity with the collaboration of competent scientific groups (Universities, Research Institutes) and Superintendency's High Supervision.
			2	Excavation projects completed [No.].	Two-year	The Managing Authority will take care of the documentation related to the sites where interventions were carried out, keeping an update on the "current" state of conservation of the artifacts	Managing entity with the collaboration of competent scientific groups (Universities, Research Institutes) and Superintendency's High Supervision.
4	IV	Maintenance	1	Number of sites where seasonal/periodical maintenance work (clearing, pruning, mowing and weeding) was carried out [No.] and surface of treated areas [ha].	Yearly	Maintenance will be scheduled and carried out according to a detailed Maintenance Plan. It will be renewed and updated annually. Each intervention will be registered and accompanied by a report.	Managing entity with the collaboration of the Regional Forest Agency for the Development of the Territory and Environment of Sardinia (Fo.re.s.t.a.s), and the Superintendency's' High Supervision.
			2	Number of sites where maintenance work (sealing, cleaning, water drainage system overhaul, conservation support structure overhaul) was carried out [No].	Yearly	Maintenance will be scheduled and carried out according to the Maintenance Plan. Each intervention will be registered and accompanied by a report	Managing entity with the collaboration of competent scientific groups (Universities, Research Institutes) and Superintendency's High Supervision.
5	V	Inspection and surveillance	1	Violation registry - anthropogenic damage [No.].	Yearly	Damage to monuments reported (including acts of vandalism) or identified for any other reason. The report will be supplemented by photographic documentation.	Managing body in collaboration with the Superintendencies.
			2	Survey of the evolution of the territory and monumental context through aerial survey systems and drones and verification of the nature and extent of changes.	Three-year	The Managing Body will take care of the collection of documentation and the drafting of spatial and areal maps identifying the elements of modification/alteration (thematic cartographies).	Managing entity with the collaboration of competent scientific groups (Universities, Research Institutes), the Autonomous Region of Sardinia and the Superintendency's High Supervision.
6	VI	Anthropogenic pressure induced by presences on the site	1	Visitors per site [No. visitors/year] [visitors/day] [daily and seasonal peak No.].	Yearly	The number of visitors will be calculated based on the number of tickets sold in the case of staff attended sites and will be estimated for other sites based on organized events or by means of sample surveys aimed at assessing attendance at different times of the year and establishing the maximum number (peaks) of visitors, even if only occasionally.	Managing body in collaboration with territorial bodies and local organizations, including volunteer associations.
			2	Attendance intensity (number of days when the peak of visitors is higher than the average number of visitors [No./year]).	Yearly	The indicator is intended to evaluate the duration of the site's maximum exposure to anthropogenic pressure and will be evaluated from the data collected for indicator VII.1.	Managing body.
7	VII	Investment	1	Total investment in maintenance, restoration, conservation, and excavation (by site) [€/year] and percentage distribution of investment in planning [%] and implementation [%].	Yearly	The indicator includes all investments and the impact of design and implementation costs on the total annual budget.	Managing body.

Tab. 6.a.1 - Monuments, sites and archaeological contexts.

		Category of actions and interventions	No.	Indicator / UnitIndicator / Unit	Periodicity / Frequency	Registration notes (location/location, tools, etc.	Entity responsible for registration
8	IIX	Climate change (climate regions)	1	Changes in annual mean temperature: Air temperature change [°C].	Two-year	According to the plans and requirements specified by the relevant agencies.	Managing body in collaboration with the Regional Environmental Protection Agency of Sardinia (A.r.p.a.s) and Decentralized Functional Center of Regional Civil Protection (CFDPC)
			2	CO2 emissions [t-eq-CO2].	Yearly	According to the plans and requirements specified by the relevant agencies.	Managing body in collaboration with the Regional Environmental Protection Agency of Sardinia (A.r.p.a.s) and Decentralized Functional Center of Regional Civil Protection (CFDPC).
9	IX	Disasters/natural catastrophes	1	Area of property/assets affected by forest wild fires [ha]	Yearly	According to the plans and requirements specified by the relevant agencies.	Managing body with the collaboration of the Regional Forest Agency for the Development of the Territory and Environment of Sardinia (Fo.re.s.t.a.s), and the Forestry and Environmental Surveillance Corps of Sardinia.
			2	Area of the property affected by flooding [ha].	Yearly	According to the plans and requirements specified by the relevant agencies.	Managing body in collaboration with the Regional Environmental Protection Agency of Sardinia (A.r.p.a.s), the General Directorate of the Regional Hydrographic District Agency, soil defense, hydrogeological planning and flood risk management service, and the Decentralized Functional Center of the Regional Civil Protection (CFDPC).
			3	Disastrous weather events that affected the property/site/assets [No. of episodes].	Yearly	According to the plans and requirements specified by the relevant agencies.	Managing body in collaboration with the Regional Environmental Protection Agency of Sardinia (A.r.p.a.s), the General Directorate of the Regional Hydrographic District Agency, soil defense, hydrogeological planning and flood risk management service, and the Decentralized Functional Center of the Regional Civil Protection (CFDPC).
			4	Evaluation of post-disaster damage in the event of a disaster, such as storms, floods, and landslides.	If necessary	Verification of site integrity and accessibility, as well as the effectiveness of active hazard mitigation measures such as river embankments, rockfall nets, gabions, drainage, etc.	Managing body in collaboration with the Regional Environmental Protection Agency of Sardinia (A.r.p.a.s), the General Directorate of the Regional Hydrographic District Agency, soil defense, hydrogeological planning and flood risk management service, and the Decentralized Functional Center of the Regional Civil Protection (CFDP
10	X	Impact from infrastructure and buildings	1	New buildings/constructions/infrastructure constructed in the territorial contexts close to the sites [No.	Three-year	Based on the maps generated for indicator a.V.2 "Inspection and Surveillance- Survey of the evolution of the territory and monumental context through aerial survey systems and drones and verification of the nature and extent of changes" cartographic census, inspection, verification of the impact and legitimacy of the artifacts and infrastructures will be carried out in relation to the requirements of the rules establishing the UNESCO Site and the boundaries of the "core" and "buffer zone".	Managing body in collaboration with the Department of Local Authorities, Finance and Urban Planning of the Autonomous Region of Sardinia, the Forestry and Environmental Surveillance Corps of Sardinia, territorial authorities, the Carabinieri Station for the Protection of the Cultural Heritage of the Carabinieri Corps and the Superintendencies.
			2	Infringements/Violations in territorial/urban planning [No.].	Three-year	Based on the maps generated for indicator a.V.2 "Inspection and Surveillance- Survey of the evolution of the territory and monumental context through aerial survey systems and drones and verification of the nature and extent of changes" cartographic census, inspection, verification of the impact and legitimacy of the artifacts and infrastructures will be carried out in relation to the requirements of the rules establishing the UNESCO Site and the boundaries of the "core" and "buffer zone".	Managing body in collaboration with the Department of Local Authorities, Finance and Urban Planning of the Autonomous Region of Sardinia, the Forestry and Environmental Surveillance Corps of Sardinia, territorial authorities, the Carabinieri Station for the Protection of the Cultural Heritage of the Carabinieri Corps and the Superintendencies.
11	XI	Changes in biodiversity	2	Habitat restoration/conservation projects and area restored/conserved [No] [ha]	Three-year		Managing body
12	XII	Changes and impacts on vegetation and landscape	1	Significant alterations of natural landscape to plant cover [ha] and geological enviromnent	Six-year	Based on the maps generated for indicator a.V.2 "Inspection and Surveillance- Survey of the evolution of the territory and monumental context through aerial survey systems and drones and verification of the nature and extent of changes" cartographic census, inspection, verification of the impact and legitimacy of the changes will be carried out in relation to the requirements of the rules establishing the UNESCO Site and the boundaries of the "core" and "buffer zone".	Managing body
13	XIII	Sustainable mobility	1	New roads and track/trail opening [qualitative].	Three-year	The indicator should make explicit, based on interdisciplinary assessments, the overall impact of the works on the preservation of universal values, on a scale of: insignificant; significant; severe.	Environmental Authorities
			2	Equipped trails in and around component parts of sites open to visitation [qualitative].	Three-year	The indicator should make explicit, based on interdisciplinary assessments, the overall impact of the works on the preservation of universal values, on a scale of: insignificant; significant; severe.	Managing body
			3		Three-year	The indicator should make explicit, based on the maximum number of registered vehicles/site, the overall impact of the presence of vehicles on the preservation of universal values, on a scale of values (insignificant; significant; severe), breaking the down by type of vehicles (cars, buses, motorcycles, etc.).	Managing body

Tab. 6.a.2 - Environmental, landscape and territorial factors.

active and consistent through quality planning, supported by diagnostic activities and constant scientific research on the heritage and related conservation processes.

Indicator category VI seeks to verify the impact of visitors on the conservation of universal values, while indicator category VII records and evaluates the amount of funding and the incidence of investments made in the design and completion of maintenance, conservation, excavation and restoration works compared to total investments.

The second group of indicators (Table 6.a.2) focuses on the impact of climate and environmental changes and anthropogenic transformations such as infrastructure and mobility.

Indicator categories II-IV concern the ability to keep the excavation, maintenance and restoration of the works active and constant through quality planning, supported by diagnostic activities and constant scientific research on the heritage and related conservation processes. Indeed, the artifacts are mainly located in rural contexts, where community participation is particularly important for the care and protection of the artifacts and their landscape context, as well as to pass intangible values. Furthermore, it is believed that the quality of conservation can also be measured through the quantity and quality of the scientific commitment that Universities and Research Insti-

		Category of actions and interventions	No.	Indicator / units	Periodicity / Frequency	Registration notes (location/location, tools, etc.)	Entity responsible for registration
14	XIV	Local Satisfaction	1	Degree of population commitment to conservation - survey [%].	Three-year	The indicator will take into account the percentage of local people engaged for any (unpaid) reason in the protection and care of monuments and their enhancement.	Managing body
15	XV	Interpretation and Dissemination	1	Sites that can be visited with interpretation systems that also illustrate issues of vulnerability, conservation and restoration [%].	Two-year		Managing body with the collaboration of competent scientific groups (Universities, Research Institutes) and Superintendency's High Supervision.
			2	Organization of workshops, in situ laboratory activities, conferences and events related to the conservation, restoration and enhancement of sites and their landscape contexts [No.].	Two-year		Managing body with the collaboration of competent scientific groups (Universities, Research Institutes) and Superintendency's High Supervision.
			3	Information brochures and documents that also illustrate issues of vulnerability, conservation and restoration [No.].	Two-year		Managing body with the collaboration of competent scientific groups (Universities, Research Institutes) and Superintendency's High Supervision.
			4	Number of "open worksites" i.e., which can be visited by the public or visiting scientific communities in relation to the number of interventions carried out [%].	Two-year	The % indicator must exclude from the total number of work sites those where, for protection or safety reasons, access and visitation may only be granted to expert personnel. Such work sites may fall under the Smart Heritage category of indicator c.XV.5	Managing body with the collaboration of competent scientific groups (Universities, Research Institutes) and Superintendency's High Supervision.
			5	Number of projects and construction sites involving technology (Smart Heritage) [No.].	Two-year		Managing body with the collaboration of competent scientific groups (Universities, Research Institutes) and Superintendency's High Supervision.
16	XVI	Collaboration	1	Institutions (national and international), associations and local bodies cooperating in the nomination/management [No.].	Yearly		Managing body
17	XVII	Volunteers	1	Participants in archaeological camps/work camps/excavations [No.].	Yearly		Managing body
18	XVIII	Science	1	Research projects [No.].	Yearly	The Managing Body will take care of the organization of the projects and will keep a digital copy of them, updating the state of the art related to the "current" state of conservation of the artifacts. Also included in the research projects are undergraduate, doctoral and postgraduate theses, as well as the outputs of educational workshops, etc., including voluntary works which do not enjoy dedicated funding.	Managing body with the collaboration of competent scientific groups (Universities, Research Institutes) and Superintendency's High Supervision.
			2	Papers published in indexed journals [No].	Yearly	The Managing Body will maintain the bibliographic collection and keep at least one digital copy of published papers, updating the state of the art of studies.	Managing body with the collaboration of competent scientific groups (Universities, Research Institutes) and Superintendency's High Supervision.
			3	Institutions involved in research projects [No.] and percentage incidence of local, national and international institutions.	Yearly		Managing body with the collaboration of competent scientific groups (Universities, Research Institutes) and Superintendency's High Supervision.

Tab. 6.a.3 - Recognition, participation and dissemination.

tutions devote to the heritage included in the Site, the results of which can steer conservation, restoration and promotional choices.

The selection of the indicators contained in the tables takes into account the accuracy of the sources, the availability of the data, as well as their reliability and regular provision. For this reason, the constant collaboration in the monitoring activities is envisaged, by the Universities, the various competent bodies of the Autonomous Region of Sardinia, but above all of the Superintendencies.

It is believed that the monitoring plan, thus set up, can provide a structured *corpus* of consistent and verifiable information, which is also indispensable for periodic reports, to be produced, according to the new guidelines (2023) every six years.. Due to the nature of the monuments, this timeframe - possibly divided into two or three data collection sub-periods - is a time reference that is also consistent with the time required to check the methods and speed of evolution of the processes of alteration and degradation affecting the types of artifacts included in the Site, but also not too long in order to ensure good timeliness in the introduction of corrective measures to management strategies and the implementation of restoration work, where required. The monitoring intervals of the indicators were calibrated according to the robustness or fragility of the attributes and their susceptibility to change.

In order to make the interpretation of the magnitude of the phenomena and

their evolution as **objective** as possible, **numerical or multiple-choice vocabularies**, were chosen whenever possible. For many indicators, moreover, some recommendations have been made to make the **measurement repeatable** and the **data comparable**. We refer to, including but not limited to, the attention to be paid when using the same frame in photographic campaigns, or to carry out environmental measurements always at the same point and possibly using the same tools.
All data from monitoring will be stored in a georeferenced information system, managed by the managing body of the Site. Consistent with the databases of the Ministry of Culture, it will be based on a **relational database** that will allow the query of information by topic.

6.b - Administrative arrangements for monitoring property

An important aspect of monitoring concerns the identification of the parties responsible and implementers of the data collection and interpretation, since this choice affects the real and apparent credibility of the results of the work carried out. In general, monitoring is more trustworthy if carried out transparently, by competent and independent experts (ref. Monitoring World Heritage, World Heritage Papers 10, UNESCO World Heritage Centre/ICCROM, 2004).
The task of planning and implementing the monitoring, including the drafting of the periodic report to be submitted every six years to the World Heritage Committee, will be entrusted to Centro Studi Identità e Memoria (CESIM), coordinator of the scientific side of the nomination, supported by an interdisciplinary scientific coordination committee, which will partly overlap with the application *team*. It is believed, by drafting the dossier, that this working group has acquired an in-depth knowledge and specialized skills in the field covered and that, therefore, it can be responsible for the monitoring of project implementation. The *team* includes the technical staff of the Superintendencies, professors and researchers of the Universities of Cagliari and Sassari, freelancers, who will also be responsible for collecting data from third parties, acquiring them in the database and interpreting their performance.

In accordance with chapter 5 of the Guidelines for the Implementation of the World Heritage Convention, the data relating to the monitoring of the state of the assets will be collected and updated on an annual/biennial or three-yearly basis according to the different parameters referred to in section 6.a, in order to ensure adequate control and provide a solid basis for the preparation of the periodic report on the state of conservation and management, to be submitted every six years by the proposing State to the World Heritage Committee through the UNESCO World Heritage Centre. **In particular, CESIM will be the entity responsible for the collection and storage of all information** regarding the monitoring of the site according to the provisions contained in Section 6.a, with the support of the Department of Civil, Environmental and Architectural Engineering of the University of Cagliari, the University of Sassari, under the surveillance of the peripheral bodies of the Ministry of Culture. This includes data collection for all observations related to cultural heritage protection, spatial planning and the environment. The monitoring tasks require coordination with the municipal administrations, the companies involved in the promotion and use of the sites, the regional bodies that carry out routine or periodic monitoring tasks with regard to the various environmental and territorial governance aspects that concern the nominated property, but also with the local communities, in the spirit of the Faro Convention (as detailed in the column of responsibilities of tables 6.a.1-2-3).

6.c - Results of previous reporting exercises

This dossier and in particular chapters 1, 2 and 4 currently are the most significant integrated and interdisciplinary analysis of the state of conservation of the "Art and Architecture in the Prehistory of Sardinia" site. Most of the monuments have been subject to excavation, study, research and restoration. In some cases, the Ministry of Culture has launched instrumental control systems on artifacts of particular vulnerability. However, this dossier has collected and summarized critically for the first time all the document which have been published from the early excavation and recognition activities to date, expanding the knowledge base and aligning the levels of investigation achieved, according to the criteria of consistency and homogeneity of information. In particular, the geometric data, the territorial analysis, the geotechnical and lithological nature of the areas where the artifacts rest, the analysis of the material consistency and structural safety, the general state of conservation of the archaeological areas and the surfaces of the artifacts were updated. The submission of the application and the following registration will therefore serve as the first step for the monitoring process that will foster the continuous use of good practices implemented in the past and the introduction of new conservation management methods, whenever the first monitoring activity highlights issues and potential risks for the transfer of the site universal values to future generations.

DOMUS DE JANAS

ARTE E ARCHITETTURA NELLA PREISTORIA DELLA SARDEGNA.

PATRIMONIO MUNDIAL • WORLD HERITAGE • PATRIMOINE MONDIAL

7

ART AND ARCHITECTURE IN THE PREHISTORY OF SARDINIA

The domus de janas

DOCUMENTATION

7.a - Photographs and audiovisual image inventory and authorization form

Id No.	Format (slide/ print/ video)	Caption	Date of Photo (mo/ yr)	Photographer/ Director of the video	Copyright owner (if different than photographer/ director of video	Contact details of copyright owner (Name, address, tel/fax, and e-mail)	Non exclusive cession of rights (Yes/No - see Annex 5, Section 7a, of the Operational Guidelines)
1	Photography	Alghero - Necropolis of Anghelu Ruju Protomes outside Tomb A	09/2021	Nicola Castangia	_	nicola.castangia@gmail.com	Yes
2	Photography	Alghero - Necropolis of Anghelu Ruju Tomb XXbis	06/2021	Sergio Melis	_	sergio.melis44@tiscali.it	Yes
3	Photography	Villanova Monteleone - Necropolis of Puttu Codinu View from the top of the necropolis	05/2021	Valentino Selis	_	valentino.selis@gmail.com	Yes
4	Photography	Villanova Monteleone - Necropoli di Puttu Codinu Tomb VIII ceiling detail	05/2021	Nicola Castangia	_	nicola.castangia@gmail.com	Yes
5	Photography	Putifigari - Necropoli di Monte Siseri Interior detail of Tomb I	05/2021	Nicola Castangia	_	nicola.castangia@gmail.com	Yes
6	Photography	Putifigari - Necropoli di Monte Siseri False door detail of Tomb I	04/2021	Nicola Castangia	_	nicola.castangia@gmail.com	Yes
7	Photography	Olmedo - Archaeological complex of Monte Baranta Exterior view of the enclosure - tower	0472021	Nicola Castangia	_	nicola.castangia@gmail.com	Yes
8	Photography	Olmedo - Archaeological complex of Monte Baranta Menhir detail	05/2021	Nicola Castangia	_	nicola.castangia@gmail.com	Yes
9	Photography	Ossi - Necropolis of Mesu 'e Montes Main chamber with carved architectural and symbolic motifs in Tomb II	05/2021	Nicola Castangia	_	nicola.castangia@gmail.com	Yes
10	Photography	Ossi - Necropolis of Mesu 'e Montes Exterior view of Tomb I	06/2021	Sergio Melis	_	sergio.melis44@tiscali.it	Yes
11	Photography	Sassari - Sanctuary of Monte d'Accoddi Panoramic view of the Sanctuary	06/2021	Valentino Selis	_	valentino.selis@gmail.com	Yes
12	Photography	Sassari - Sanctuary of Monte d'Accoddi Eastern view of the Sanctuary	09/2022	Nicola Castangia	_	nicola.castangia@gmail.com	Yes
13	Photography	Porto Torres - Necropolis of Su Crucifissu Mannu Carved bull-shaped protomes in Tomb XXI	06/2021	Sergio Melis	_	sergio.melis44@tiscali.it	Yes
14	Photography	Porto Torres - Necropolis of Su Crucifissu Mannu Hatch with step in Tomb II	09/2022	Nicola Castangia	_	nicola.castangia@gmail.com	Yes
15	Photography	Sennori - Domus de janas of Orto del Beneficio Parrocchiale Exterior view of the domus de janas	08/2020	Valentino Selis	_	valentino.selis@gmail.com	Yes
16	Photography	Sennori - Domus de janas of Orto del Beneficio Parrocchiale Protome carved in the main chamber of Tomb B	09/2022	Nicola Castangia	_	nicola.castangia@gmail.com	Yes
17	Photography	Castelsardo - Roccia dell'Elefante Exterior view of Roccia dell'Elefante	09/2022	Nicola Castangia	_	nicola.castangia@gmail.com	Yes
18	Photography	Castelsardo - Roccia dell'Elefante Protomes carved in the antechamber of Tomb I	09/2022	Nicola Castangia	_	nicola.castangia@gmail.com	Yes
19	Photography	Arzachena - Necropolis of Li Muri Top view of the circle	08/2021	Valentino Selis	_	valentino.selis@gmail.com	Yes
20	Photography	Arzachena - Necropolis of Li Muri Panoramic view	08/2021	Valentino Selis	_	valentino.selis@gmail.com	Yes
21	Photography	Cheremule – Petroglyph Park Exterior view of Petroglyph Park	05/2021	Valentino Selis	_	valentino.selis@gmail.com	Yes
22	Photography	Cheremule - Petroglyph Park Anthropomorphic petroglyphs from the Branca Tomb.	09/2022	Nicola Castangia	_	nicola.castangia@gmail.com	Yes
23	Photography	Mores - Dolmen of Sa Coveccada Half-side view of the dolmen	03/2008	Luca Doro	_	lucadoro@gmail.com	Yes
24	Photography	Mores - Dolmen of Sa Coveccada Dolmen front view	03/2008	Luca Doro	_	lucadoro@gmail.com	Yes

Id No.	Format (slide/ print/ video)	Caption	Date of Photo (mo/ yr)	Photographer/ Director of the video	Copyright owner (if different than photographer/ director of video	Contact details of copyright owner (Name, address, tel/fax, and e-mail)	Non exclusive cession of rights (Yes/No - see Annex 5, Section 7a, of the Operational Guidelines)
25	Photography	Ozieri - Shelter of Luzzanas Exterior view of the shelter	10/2021	Nicola Castangia	_	nicola.castangia@gmail.com	Yes
26	Photography	Ozieri - Shelter of Luzzanas Motifs painted with red ochre	10/2021	Nicola Castangia	_	nicola.castangia@gmail.com	Yes
27	Photography	Bonorva - Necropolis of Sant'Andrea Priu Tomb VIII or Chamber Tomb	05/2021	Sergio Melis	_	sergio.melis44@tiscali.it	Yes
28	Photography	Bonorva - Necropolis of Sant'Andrea Priu Female figure part of the early Christian decorations from the Chief's Tomb	10/2021	Nicola Castangia	_	nicola.castangia@gmail.com	Yes
29	Photography	Bonorva - Necropolis of Sa Pala Larga Detail of the painted spirals in cell 3 of Tomb VII	05/2021	Sergio Melis	_	sergio.melis44@tiscali.it	Yes
30	Photography	Bonorva - Necropolis of Sa Pala Larga Bull-shaped protomes and spirals carved on the pillar of the main cell of Tomb III	10/2021	Nicola Castangia	_	nicola.castangia@gmail.com	Yes
31	Photography	Anela - Necropolis of Sos Furrighesos Entrance to Tomb XIV	10/2021	Nicola Castangia	_	nicola.castangia@gmail.com	Yes
32	Photography	Anela - Necropolis of Sos Furrighesos Panoramic view of the Necropolis	09/2021	Valentino Selis	_	valentino.selis@gmail.com	Yes
33	Photography	Sedilo -Village of Serra Linta Partial view of the Village	09/2021	Nicola Castangias	_	nicola.castangia@gmail.com	Yes
34	Photography	Sedilo -Village of Serra Linta Partial view of the Village	09/2021	Nicola Castangia	_	nicola.castangia@gmail.com	Yes
35	Photography	Sedilo - Necropolis of Iloi/Ispiluncas Entrance to Tomb II	09/2021	Nicola Castangia	_	nicola.castangia@gmail.com	Yes
36	Photography	Sedilo - Necropolis of Iloi/Ispiluncas Tomb I o Maxia Tomb	09/2021	Nicola Castangia	_	nicola.castangia@gmail.com	Yes
37	Photography	Ardauli Necropolis of Mandras Top view of the necropolis	09/2021	Valentino Selis	_	valentino.selis@gmail.com	Yes
38	Photography	Ardauli - Necropolis of Mandras Exterior view of Tomb I	09/2021	Nicola Castangia	_	nicola.castangia@gmail.com	Yes
39	Photography	Oniferi - Necropolis of Brodu Panoramic view of the Necropolis	08/2022	Valentino Selis	_	valentino.selis@gmail.com	Yes
40	Photography	Oniferi - Necropolis of Brodu Horn-shaped motif carved in Tomb IV	05/2022	Sergio Melis	_	sergio.melis44@tiscali.it	Yes
41	Photography	Mamoiada - Necropolis of Istevene External view of the necropolis	08/2022	Valentino Selis	_	valentino.selis@gmail.com	Yes
42	Photography	Mamoiada - Necropolis of Istevene Entrance to Tomb IV	09/2021	Nicola Castangia	_	nicola.castangia@gmail.com	Yes
43	Photography	Oliena - Grotta Corbeddu Interior of the cave	09/2021	Nicola Castangia	_	nicola.castangia@gmail.com	Yes
44	Photography	Oliena - Grotta Corbeddu Panoramic view	08/2022	Valentino Selis	_	valentino.selis@gmail.com	Yes
45	Photography	Villa Sant'Antonio - Menhir of Cuccuru Tundu Front niew of the menhir	02/2017	Luca Doro	_	lucadoro@gmail.com	Yes
46	Photography	Villa Sant'Antonio - Menhir of Cuccuru Tundu Front niew of the menhir	02/2017	Luca Doro	_	lucadoro@gmail.com	Yes
47	Photography	Pau - Shelter of Su Forru de is Sinzurreddus and stone tool workshop Exterior view of the shelter	08/2022	Valentino Selis	_	valentino.selis@gmail.com	Yes
48	Photography	Pau - Shelter of Su Forru de is Sinzurreddus and stone tool workshop Obsidian fragments along the path	09/2022	Nicola Castangia	_	nicola.castangia@gmail.com	Yes
49	Photography	Goni - Archaeological Park of Pranu Mutteddu Tomb IV with menhirs known as the "triad"	05/2022	Nicola Castangia	_	nicola.castangia@gmail.com	Yes
50	Photography	Goni - Archaeological Park of Pranu Mutteddu The domus de janas necropolis in Genna Accas	05/2022	Nicola Castangia	_	nicola.castangia@gmail.com	Yes
51	Photography	Villaperuccio - Necropolis of Montessu Aerial view of the necropolis	09/2022	Valentino Selis	_	valentino.selis@gmail.com	Yes
52	Photography	Villaperuccio - Necropolis of Montessu Motifs engraved in Tomb II	05/2022	Nicola Castangia	_	nicola.castangia@gmail.com	Yes

7.b - Texts relating to protective designation, copies of property management plans or documented management systems and extracts of other plans relevant to the nominated property

The following texts are attached to the nomination format:

The Management Plan is included in Annex 1 (Management Plan) together with the Memorandum of Understanding signed by the stakeholders (mentioned in section 5.a).

The texts relating to protective national and regional rules and regulations, are included in Annex 2 (Texts relating to protective designation). They are Italian Legislative Decree no. 42 of 22 January 2004, Italian Cultural Heritage Code, and Article 3 of Regional Law no. 14 of 20 September 2006, Regulations on Cultural Heritage, Institutes and Places of Culture.

7.c - Form and date of most recent records or inventory of the nominated property

Part of the graphic and photographic documentation related to the nominated property is kept at the archives of the two Superintendencies of Sardinia (Superintendency of Archaeology, Fine Arts and Landscape for the Provinces of Sassari and Nuoro and Superintendency of Archaeology, Fine Arts and Landscape for the for the metropolitan city of Cagliari and the Provinces of Oristano and Sud Sardegna), at the archives of the Istituto Centrale per il Catalogo e la Documentazione of the Ministry of Culture and at the CeSIM/APS headquarters.
In 2017, the Autonomous Region of Sardinia cataloged the island's prehistoric monuments and artifacts.

The catalog entitled "Corpus delle antichità del Paleolitico, del Mesolitico, del Neolitico, dell'Eneolitico e del Bronzo antico e dei manufatti architettonici" was carried out according to the standards of the Central Institute for Catalogue and Documentation (ICCD) of the Italian Ministry of Culture and published numerous files on monuments and ceramic, lithic and metal artifacts (available at https://catalogo.sardegnacultura.it/search/) and also published in the General Catalog of Cultural Heritage of the MiC at https://catalogo.beniculturali.it/

7.d - Address where inventory, records and archives are held

The Superintendence of Archaeology, Fine Arts and Landscape for the Provinces of Sassari and Nuoro
Piazza Sant'Agostino n.2 - 07100 Sassari, Italia

The Superintendence of Archaeology, Fine Arts and Landscape for the Metropolitan City of Cagliari and the Provinces of Oristano and Sud Sardegna
Via Cesare Battisti n.2 - 09124 Cagliari, Italia

Centro Studi Identità e Memoria (CeSIM/APS)
Viale Caprera, 12 – 07100 Sassari, Italia

Department of Education, Cultural Heritage, Information, Entertainment and Sport
Viale Trieste, 186 – 09123 Cagliari, Italia

Istituto Centrale per il Catalogo e la Documentazione
Via di San Michele, 18 - 00153 Rome

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DOMUS DE JANAS
ARTE E ARCHITETTURA NELLA PREISTORIA DELLA SARDEGNA.

PATRIMONIO MUNDIAL • WORLD HERITAGE • PATRIMOINE MONDIAL

8

ART AND ARCHITECTURE IN THE PREHISTORY OF SARDINIA

The domus de janas

CONTACT INFORMATION OF RESPONSIBLE AUTHORITIES

8.a Preparer

CeSIM / APS
Viale Caprera, 12 - 07100
Sassari, Italy
Tel.: /
mobile +39 348 9189167
e-mail: preistoria.sardegna.unesco@gmail.com
infocesimsardegna@gmail.com
pec: centrostudicesim@pec.it

8.b Official local institution

Pending the establishment of a nominated property governance setup, reference may be made to:

Direzione Regionale Musei Sardegna
Complesso Monumentale ex SS. Annunziata
Corso Francesco Cossiga, snc - 07100 Sassari, Italia
Tel. +39 07034281
e-mail: drm-sar@cultura.gov.it
PEC: drm-sar@pec.cultura.gov.it
https://musei.sardegna.beniculturali.it/

Regional Secretariat of the Ministry of Culture for Sardinia
Largo Carlo Felice 15 - 09124
Cagliari, Italy
Tel. +39 070 3428200
Fax: +39 070 3428209
e-mail: sr-sar@cultura.gov.it
PEC: sr-sar@pec.cultura.gov.it
https://www.sardegna.beniculturali.it/

The Superintendence of Archaeology, Fine Arts and Landscape for the Metropolitan City of Cagliari and the Provinces of Oristano and Sud Sardegna
via Cesare Battisti n.2 - 09124
Cagliari, Italy
Tel. +39 07020101
e-mail: sabap-ca@cultura.gov.it
PEC: sabap-ca@pec.cultura.gov.it
https://www.sabapca.beniculturali.it/

The Superintendence of Archaeology, Fine Arts and Landscape for the Provinces of Sassari and Nuoro
Piazza Sant'Agostino n.2 – 07100
Sassari, Italy
Tel. +39 0792067410
e-mail: sabap-ss@cultura.gov.it
PEC: sabap-ss@pec.cultura.gov.it
http://sabap_ssnu.beniculturali.it/

Department of public education, cultural heritage, information, entertainment and sports - Assessoradu de s'istrutzione pùblica, benes culturales, informatzione, ispetàculu e isport
Viale Trieste n.186 – 09123
Cagliari, Italy
Tel.: +39 0706067004
e-mail: pi.assessore@regione.sardegna.it
PEC: pi.assessore@pec.regione.sardegna.it
https://www.regione.sardegna.it/ricerca/assessorato-della-pubblica-istruzione-beni-culturali-informazione-spettacolo-e-sport-488

For the list of involved municipalities, see section 5.a.

8.c Other Local Institutions

Museo Archeologico Nazionale di Cagliari
Piazza Arsenale,1, 09124 Cagliari, Italy
Tel. + 39 070655911
e-mail: man-ca@cultura.gov.it
https://museoarcheocagliari.beniculturali.it/

National archaeological and ethnographic museum "Giovanni Antonio Sanna"
Via Roma, 64, 07100 Sassari, Italy
Tel. + 39 07034281
e-mail: drm-sar@cultura.gov.it
https://musei.sardegna.beniculturali.it/musei/

National Archaeological Museum "Giorgio Asproni"
Via Mannu, 1, 08100 Nuoro
Tel.: +39 0784 31688
e-mail: drm-sar.museoarcheo.nuoro@beniculturali.it
https://musei.sardegna.beniculturali.it/musei/museo-archeologico-nazionale-g-asproni-di-nuoro/
Altare prenuragico di Monte d'Accoddi
Strada Statale 131 - Km 222, 200
Sassari
Tel.: +39 070 34281
e-mail: drm-sar@cultura.gov.it
PEC: drm-sar@pec.cultura.gov.it
http://musei.sardegna.beniculturali.it

8.d Official Website

https://www.cesimsardegna.com/

The official website dedicated to the candidate site is under construction:
http://www.sardegnadomusdejanas.com/

Contact name:
Giuseppa Tanda
giuseppa.tanda@gmail.com
preistoria.sardegna.unesco@gmail.com

DOMUS DE JANAS

ARTE E ARCHITETTURA NELLA PREISTORIA DELLA SARDEGNA.

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9

ART AND ARCHITECTURE IN THE PREHISTORY OF SARDINIA

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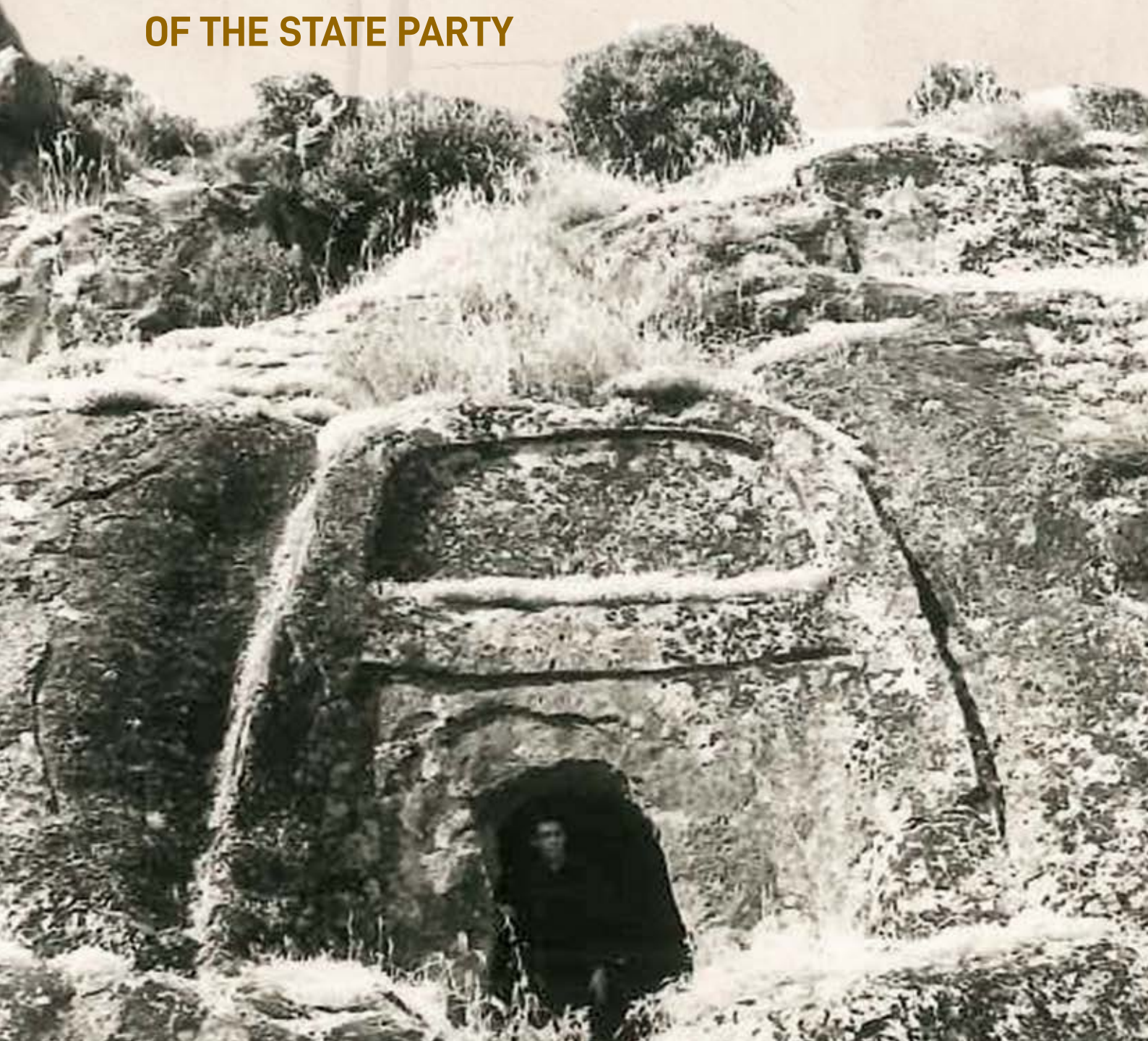

CREDITS

ART AND ARCHITECTURE IN THE PREHISTORY ON SARDINIA.
THE DOMUS DE JANAS

Institutional Support

Ministry of Culture

General Secretariat – UNESCO Office Service II Director
Technical-scientific coordination: Laura Acampora, Angela Maria Ferroni

Regional Secretariat for Sardinia
Direttore Monica Stochino

Superintendence of Archaeology, Fine Arts and Landscape for the Metropolitan City of Cagliari and the provinces of Oristano and South Sardinia
Superintendent Monica Stochino

Superintendence of Archaeology, Fine Arts and Landscape for the provinces of Sassari and Nuoro
Superintendent Bruno Billeci

Regional Directorate of Museums Sardinia
Director Francesco Muscolino

Project Management

Giuseppa Tanda,
former full professor of Prehistory and Protohistory, University of Cagliari, CeSIM/APS

Scientific committee

Archaeologists

Laura Acampora,
Official at the UNESCO Office, MiC

Angela Antona,
former official at SABAP SS, MiC, CeSIM/APS

Paola Basoli,
former official at SABAP SS, MiC, CeSIM/APS

Riccardo Cicilloni,
associate professor of Prehistory and Protohistory, University of Cagliari

Maria Giovanna De Martini,
CeSIM/APS

Anna Depalmas,
full professor of Prehistory and Protohistory, DUMAS, University of Sassari

Luca Doro,
CeSIM/APS

Angela Maria Ferroni,
former official at the UNESCO Office, MiC

Carlo Lugliè,
full professor of Prehistory and Protohistory, University of Cagliari

Sara Mameli,
CeSIM/APS

Giuseppina Marras,
CeSIM/APS

Veronica Ortu,
PhD student in Prehistory and Protohistory, DUMAS, University of Sassari

Giuseppa Tanda,
former full professor of Prehistory and Protohistory, University of Cagliari, CeSIM/APS

Emerenziana Usai,
former official at SABAP CA, MiC, CeSIM/APS

Luisanna Usai,
former official at SABAP SS, MiC

Engineers and architects

Barbara De Nicolo,
former associate professor of Construction Techniques, University of Cagliari, CeSIM/APS

Donatella Rita Fiorino,
DICAAR Associate Professor, University of Cagliari

Tatiana Kirova,
former full professor on Restoration at Polytechnic of Turin

Giuseppe Rodriguez,
full professor in Mathematics, University of Cagliari.

Giovanna Concu,
DICAAR researcher, University of Cagliari

Geologists

Rita Melis,
former associate professor of Physical Geography and Geomorphology, University of Cagliari, CeSIM/APS

Paola Mameli,
Associate professor in Archaeometry, University of Sassari

Anthropologists

Giovanni Floris,
former full professor in Anthropology, University of Cagliari, CeSim/APS member

Legal experts

Giovanni Carta,
former executive at the Autonomous Region of Sardinia

Paolo Fois,
professor emeritus, former full professor in International Law

Franco Sardi,
former executive at the Autonomous Region of Sardinia

Maria Elena Tanda,
former State executive

Scientific Support Committee

Emmanuel Anati,
archaeologist, former full professor of Prehistory and Protohistory, University of Lecce

Anthony Bonanno,
archaeologist, full professor of archaeology, University of Malta

Alberto Cazzella,
archaeologist, former full professor of Prehistory and Protohistory, University of Rome "La Sapienza"

Francesco di Gennaro,
former SABAP SS, MiC archaeological superintendent

Jean Guilaine,
professor emeritus at the Collège de France

Luiz Oosterbek,
archaeologist, full professor of Prehistory at the Polytechnic

Organizational secretariat

Francesca Buffoni,
communication specialist

Giuseppa Tanda,
Former full professor of Prehistory and Protohistory, University of Cagliari. Cesim/APS

Technical coordination

Laura Acampora,
Official archaeologist at the UNESCO Office, MiC

Luca Doro,
archaeologist, CeSIM/APS

Angela Maria Ferroni,
former official archaeologist at the UNESCO Office, MiC

Giuseppa Tanda,
Former full professor of Prehistory and Protohistory, University of Cagliari. Cesim/APS

Pietro Alfonso,
culture service official, Municipality of Alghero

Giuseppe Bianco,
agronomist, former director of ARPAS at the Regional Government

Barbara De Nicolo,
former associate professor of Construction Techniques, University of Cagliari, CeSIM/APS

MiC institutional support

General Secretariat, Service II, UNESCO Office

Laura Acampora,
archaeology official

Angela Maria Ferroni,
former archaeology official

Regional Secretariat of the Ministry of Culture for Sardinia

Massimo Casagrande,
archaeology officer

Superintendence of Archaeology, Fine Arts and Landscape for the Provinces of Sassari and Nuoro

Gabriella Gasperetti,
archaeology official

Nadia Canu,
archaeology official

Pina Corraine,
archaeology official

Superintendence of Archaeology, Fine Arts and Landscape for the Metropolitan City of Cagliari and the Provinces of Oristano and Sud Sardegna

Gianfranca Salis, archaeology official

Regional Directorate of Sardinian Museums

Stefano Giuliani, archaeology official

Editorial Board

Laura Acampora,
Official archaeologist at the UNESCO Office, MiC

Francesca Buffoni,
communication specialist, CeSIM/APS

Francesco di Gennaro,
former SABAP SS, MiC archaeological superintendent

Luca Doro,
archaeologist, CeSIM/APS

Angela Maria Ferroni,
former official archaeologist at the UNESCO Office, MiC

Veronica Ortu,
PhD student in Prehistory and Protohistory, DUMAS, University of Sassari

Giuseppa Tanda,
Former full professor of Prehistory and Protohistory, University of Cagliari. Cesim/APS

Luisanna Usai,
former archaeology official at SABAP SS, MiC

CREDITS

Chapter 1

1.a-f Boundaries and maps

Editorial staff

Alberto Vaquer,
RitecoSrl

Consultants

Laura Acampora,
Official archaeologist at the UNESCO Office, MiC

Nadia Canu,
archaeology official at SABAP SS, MiC

Pina Corraine,
archaeology official at SABAP SS, MiC

Enrico Dirminti,
archaeology official at SABAP SS, MiC

Luca Doro,
archeologo CeSIM/APS

Angela Maria Ferroni,
former official archaeologist at the UNESCO Office, MiC

Gabriella Gasperetti,
archaeology official at SABAP SS, MiC

Riccardo Locci,
archaeology official at SABAP CA, MiC

Gianluigi Marras,
archaeology official at SABAP SS, MiC

Giovanna Pietra,
archaeology official at SABAP CA, MiC

Giuseppa Tanda,
Former full professor of Prehistory and Protohistory, University of Cagliari. Cesim/APS

Gianfranca Salis,
archaeology official at SABAP CA, MiC

Alessandro Usai,
archaeology official at SABAP CA, MiC

CHAPTER 2, 3

2.a-b, 3.1-3 Description, justification

Editorial staff

Laura Acampora,
Official archaeologist at the UNESCO Office, MiC

Angela Maria Ferroni,
former official archaeologist at the UNESCO Office, MiC

Giuseppa Tanda,
Former full professor of Prehistory and Protohistory, University of Cagliari. Cesim/APS

Veronica Ortu,
PhD student in Prehistory and Protohistory, DUMAS, University of Sassari

Consulenti

Angela Antona,
former archaeology official at SABAP SS, MiC, CeSIM/APS

Paola Basoli,
former archaeology official at SABAP SS, MiC, CeSIM/APS

Franco Campus,
archaeologist
Nadia Canu, archaeology official at SABAP SS, MiC

Riccardo Cicilloni,
associate professor of Prehistory and Protohistory, University of Cagliari

Pina Corraine,
archaeology official at SABAP SS, MiC

Anna Depalmas,
full professor of Prehistory and Protohistory, DUMAS, University of Sassari

Francesco di Gennaro,
già Soprintendente archeologo SABAP SS, MiC

Maria Giovanna De Martini,
archeologa, CeSIM/APS

Pina Maria Derudas,
archeologa

Luca Doro,
archaeologist, CeSIM/APS

Francesca Floris,
archaeologist, CeSIM/APS

Gabriella Gasperetti,
archaeologist official at SABAP SS, MiC

Stefano Giuliani,
archaeologist official at the Directorate of Sardinian Museums, MiC

Cinzia Loi,
archaeologist

Carlo Lugliè,
full professor of Prehistory and Protohistory, University of Cagliari

Sara Mameli,
archaeologist, CeSIM/APS
Giuseppina Marras, archaeologist, CeSIM/APS

Paolo Melis,
archaeologist, graduate technician, University of Sassari

Giacomo Paglietti,
archaeologist, Archaeological City Museum "Genna Maria" Villanovaforru (SU)

Viviana Pinna,
archaeologist

Gianfranca Salis,
archaeology official at SABAP CA, MiC

Giuseppa Tanda,
former full professor of Prehistory and Protohistory, University of Cagliari, CeSIM/APS

Emerenziana Usai,
già funzionaria archeologa SABAP CA, MiC,CeSIM/APS

Luisanna Usai,
former archaeology official at SABAP SS, MiC, CeSIM/APS

Scientific insights (Annex 3)

Riccardo Cicilloni,
associate professor of Prehistory and Protohistory, University of Cagliari

Maria Giovanna De Martini,
archaeologist, CeSIM/APS

Laura Fanti,
archaeologist

Paolo Marcialis,
archaeologist, ArcheogeoSrl

Giuseppina Marras,
archaeologist, CeSIM/APS

Barbara Melosu,
archaeologist

Cristina Muntoni,
journalist, CeSIM/APS

Fabio Nieddu,
archaeologist

Veronica Ortu,
PhD student in Prehistory and Protohistory, DUMAS, University of Sassari

Giacomo Paglietti,
archaeologist, Archaeological City Museum "Genna Maria" Villanovaforru (SU)

Giuseppa Tanda,
formerly full professor of Prehistory and Protohistory, University of Cagliari, CeSIM/APS

Dolores Turchi,
anthropologist

Luisanna Usai,
former archaeology official at SABAP SS, MiC

CHAPTER 4

4.a-b State of conservation

Scientific Coordination

Donatella Rita Fiorino,
associate professor of restoration, DICAAR, University of Cagliari

Giovanna Concu,
researcher in Construction Technology, DICAAR, University of Cagliari

Scientific coordination for drafting the data sheet

Donatella Rita Fiorino,
associate professor of restoration, DICAAR, University of Cagliari

Giovanna Concu,
researcher in Construction Technology, DICAAR, University of Cagliari

Monica Vargiu,
research fellow in Restoration, DICAAR, University of Cagliari

Technical-operational coordination

Donatella Rita Fiorino,
associate professor of restoration, DICAAR, University of Cagliari

Monica Vargiu,
research fellow in Restoration, DICAAR, University of Cagliari

Scientific pepers on restoration

Donatella Rita Fiorino,
associate professor of restoration, DICAAR, University of Cagliari

Elisa Pilia,
researcher in Restoration, DICAAR, University of Cagliari

Monica Vargiu,
research fellow in Restoration, DICAAR, University of Cagliari

Scientific papers on mineral-petrographic analysis

Silvana Maria Grillo,
associate professor of Mineral Georesources and Mineralogical-Petrographic Applications for the Environment and Cultural Heritage, DSCG, University of Cagliari

Scientific papers on structures and geotechnics

Giovanna Concu,
researcher in Construction Technology, DICAAR, University of Cagliari

Flavio Stochino,
researcher in Construction Technology, DICAAR, University of Cagliari

Giuseppe Tropeano,
researcher in Geotechnics, DICAAR, University of Cagliari

Daniel Meloni,
technical officer, DICAAR, University of Cagliari

Salvatore Pillosu,
research fellow in Construction Technology, DICAAR, University of Cagliari

Collaboration on analysis and filing activities

Chiara Artizzu,
research fellow in Restoration, DICAAR, University of Cagliari

Martina Leo,
research fellow in Restoration, DICAAR, University of Cagliari

Giulia Leoni,
PhD candidate in Restoration, DICAAR, University of Cagliari

Salvatore Pillosu,
research fellow in Construction Technology, DICAAR, University of Cagliari

Giorgia Spacocci,
research fellow in Restoration, DICAAR, University of Cagliari

Monica Vargiu,
research fellow in Restoration, DICAAR, University of Cagliari

CHAPTER 5

5.a, i Stakeholders, Promotion

Veronica Ortu,
PhD student in Prehistory and Protohistory, DUMAS, University of Sassari

5.b - 5.c Protective measures

Nadia Canu,
archaeology official at SABAP SS, MiC

Pina Corraine,
archaeology official at SABAP SS, MiC

Alberto Vaquer,
RitecoSrl

5.d, f, g, h, j Policies and programmes

Technical-operational coordination and drafting

Elio Masala,
Talent Srl

M. Roberta Desogus,
Talent Srl

Collaboration on analysis and filing activities

Cristina Spiga,
Talent Srl

Simona Zucca,
Talent Srl

Edoardo Miozzi,
Talent Srl

Simone Carta,
Talent Srl

5.e Management Plan (Annex 1)

General coordination

Laura Acampora,
Official archaeologist at the UNESCO Office, MiC

Angela Ferroni,
former official archaeologist at the UNESCO Office, MiC

Editorial staff

Roberto Albano,
Fondazione Fitzcarraldo

Luca Dal Pozzolo,
Fondazione Fitzcarraldo

Varvara Iliaki,
Fondazione Fitzcarraldo

Giulia Lazzari,
Fondazione Fitzcarraldo

Francesca Omodeo,
Fondazione Fitzcarraldo

Consultants

Talent Srl

CeSIM/APS
Giuseppa Tanda,
former full professor of Prehistory and Protohistory, University of Cagliari

Gian Paolo Cossu,
professor at Université Paris 1 Panthéon-Sorbonne

Marco di Gangi,
former professor of law and economics

Rete dei Comuni delle domus de janas

Alessandro Cocco,
City councillor for Culture in Alghero, lead partner of the Domus de Janas Network of Municipalities, graduated in Eonomics and Management, public and corporate communication.

CHAPTER 6

6.a-c Moniting

Scientific Coordination

Donatella Rita Fiorino,
associate professor of restoration, DICAAR, University of Cagliari

Monica Vargiu,
research fellow in Restoration, DICAAR, University of Cagliari

Scientific coordination for the definition of monitoring indicators

Donatella Rita Fiorino,
associate professor of restoration, DICAAR, University of Cagliari

Giovanna Concu,
researcher in Construction Technology, DICAAR, University of Cagliari

Monica Vargiu,
research fellow in Restoration, DICAAR, University of Cagliari

Chapter texts

Donatella Rita Fiorino,
associate professor of restoration, DICAAR, University of Cagliari

Monica Vargiu,
research fellow in Restoration, DICAAR, University of Cagliari

Scientific-disciplinary contributions to the definition of monitoring indicators

Restoration
Donatella Rita Fiorino,
associate professor of restoration, DICAAR, University of Cagliari

Monica Vargiu,
research fellow in Restoration, DICAAR, University of Cagliari

Minero-petrographic aspects

Silvana Maria Grillo,
associate professor of Mineral Georesources and Mineralogical-Petrographic Applications for the Environment and Cultural Heritage, DSCG, University of Cagliari

Structures and geotechnics

Giovanna Concu,
researcher in Construction Technology, DICAAR, University of Cagliari

Giuseppe Tropeano,
researcher in Geotechnics, DICAAR, University of Cagliari

Daniel Meloni,
technical officer, DICAAR, University of Cagliari

PROJECT AND DISSEMINATION ACTIVITIES

Graphic documentation and surveys

Paolo Marcialis,
ArcheogeoSrl

Vincenzo Nubile,
Archeologia e rilievi Srl

Franco Carta,
illustrator

Luca Doro,
archaeologist, CeSIM/APS

Nicola Solinas,
Studio, S2P Srl

Giovanni Antonio Solinas,
S2P Srl

Enrico Pintus S2P,
Srl

Gianluca Chessa,
architect

Maps

Alberto Vaquer,
RitecoSrl

GIS

Luca Doro,
archaeologist, CeSIM/APS

Donatella Rita Fiorino,
DICAAR Associate Professor,
University of Cagliari

Monica Vargiu,
DICAAR, University of Cagliari
Luca Sanna, archaeologist

Luca Sanna,
archaeologist

Analysis and sampling

Alessia Andreotti,
graduate technician, Department of Chemistry and Industrial Chemistry, University of Pisa

Ilaria Bonaduce,
Associate professor of Chemistry, Department of Chemistry and Industrial Chemistry, University of Pisa

Alessandra Delfina Teodora Carrieri,
Official, conservator and restorer, SABAP SS, MiC

Maria Perla Colombini,
Former full professor of Chemistry, SMFN, University of Pisa

Charlotte Angela Stephanie Montanaro,
Official, conservator and restorer, SABAP SS, MiC

Archive searching

Luca Cheri,
archaeologist

Chiara Pischedda,
consultant

Illustrations

Franco Carta,
illustrator

Photographs

Nicola Castangia
Maurizio Cossu
Luca Doro
Luca Galzerano
Alma Lombardi e Marcello Puddu
Ingeborg Mangold
Sergio Melis
Salvatore Pirisino
Giuseppe Putzolu
Giovanni Porcu
Valentino Selis

Documentaries

Cesim Sardegna/APS

Marketing and Web Services

Francesca Buffoni,
communication specialist

Maria Corazza,
Isola LAB Srl

Davide Troisi,
Isola LAB Srl

Antonio Fois,
Mouse ADV

Marta Porru,
Web Master

Dissemination and education

Sara Mameli,
archaeologist, CeSIM/APS

Maria Giovanna De Martini,
archaeologist, CeSIM/APS

Cristina Muntoni,
journalist, CeSIM/APS

Giacomo Paglietti,
archaeologist, Archaeological City Museum "Genna Maria" Villanovaforru (SU)

Angela Demontis,
artist, CeSIM/APS

Carmen Delogu,
archaeologist

Anna Maria Ardu,
archaeologist

Romano Marcias,
RM Management

Lisa Salis,
archaeologist, CeSIM/APS

Lella Coraduzza,
archaeologist, CeSIM/APS

Translation

Tonito Solinas,
Fox P2 di Viale Srl

Graphics, layouts and printing

Gianluca Chessa,
architect

Antonio Fois,
Mouse ADV

Tipografia TAS,
Publishing and Printing

Tipografia Denti

Edizioni Condaghes

Acknowledgements

Franco Baralla,
graphic designer

Acknowledgements

We would like to thank the following for their availability and cooperation during the project implementation stages

Department of Education, Cultural Heritage, Information, Entertainment and Sport

We would like to thank, in particular

Alessandro Alciator, manager, Culture and Tourism Service, Municipality of Alghero

Bruno Billeci, superintendent SABAP SS, MIC

Francesca Carrada, archaeology official, Cultural Heritage Service, publishing and information, RAS

Mauro Manca, budget sector coordinator, RAS

Patricia Olivo, former director of MiC Regional Secretariat

Mariassunta Peci, manager of Service II, UNESCO Office, General Secretariat, MiC

Patrizia Podda, coordinator of the Museum System Department, RAS

Renato Serra, director general, Directorate general of cultural heritage, information, entertainment and sports, RAS

Monica Stochino, Regional Secretariat director, superintendent SABAP CA, MiC

Patrizia Tomassetti, architect official, MiC Regional Secretariat

Luana Toniolo, former director at the Directorate of Museums in Sardinia

Paola Zinzula, director of cultural heritage, publishing and information service, RAS

The Mayors and Administrations of the Domus de Janas Municipality Network.
Alghero (SS),
Anela (SS),
Ardauli (OR),
Arzachena (SS),
Benetutti (SS),
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Sedilo (OR),
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Suni (OR),
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Talana (NU),
Thiesi (SS),
Tortolì (NU),
Usini (SS),
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Villaperuccio (SU)