- Methodologies for cataloguing cultural heritage

- Computerised cataloguing and multimedia documentation

ASSESSMENT ARCHAEOLOGY

Summary regulatory provisions and procedures for the protection of the archaeological heritage at public works.

ASSESSMENT ARCHAEOLOGY

«*The assessment of archaeological resources can permit the archaeologist to act in harmony with social development, to program the necessary interventions and optimise the use of the available economic and human resources. For regional planners, assessment reduces the risk that interventions could require costly variations once the works already under way. ...* »

(FRANCOVICH R., PASQUINUCCI M., *Introduction,* in *La carta archeologica fra ricerca e pianificazione territoriale,* Acts of a Study Seminar Organised by the Department of Educational and Heritage Policies, Region of Tuscany; Florence 2001).

Assessment archaeology is the specific research sector for the reconciliation of heritage preservation with the needs for resource extraction, construction and infrastructure development, which inevitably involve “underground” works. Examples of such development include:

- Rail lines
- Highways
- Electrical transmission grids
- Enlargement of airports
- Commercial centres

In recent years, the development of legislation has supported the evolution away from past practice, limited to emergency interventions, towards the planning of preparatory operations for the evaluation of the impact of a development on the archaeological and art-historic resources of the relevant territory. The aim is to achieve more rapid and effective works for preservation of the resources.

Metro C – Amba Aradan Station
Ancient Roman barrack (II century p.C.)

London Underground

In Europe, the first great projects of impact assessment and salvage archaeology took place following the Second World War, during the enlargement of the London Underground.

Since the 1980s, the practice of assessment archaeology has become systematic throughout Italy, with the interventions supported by both public and private funding. Among the most recent examples are the projects for high-speed rail-lines in Lombardy and Campania, which have involved numerous archaeological assessments and extensive controlled excavations.

Prehistoric village, near the new Afragola HS Station (Neaples)

DEVELOPMENT OF LEGAL PROVISIONS

Since the 1930s, the Italian government has enacted a series of laws for the protection of the evidence of the past in harmony with the development of modern infrastructure, cities and landscapes, rather than in opposition.

For many years, the reference text concerning the preservation of Italian cultural heritage was Law no. 1089 of 1 June 1939, "*On the protection of materials of artistic and historic interest*", even though the specific wording of the law considered only the preservation of works of art of recognised aesthetic value.

The term “**cultural properties**” was introduced in the 1950s, under a series of international acts. Among these was the **Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict** (14 May 1954), which serves as the basis of the current Law on Protection of Cultural Properties.

For the purposes of this Convention, they are considered **cultural properties**, regardless of their origin or of their own:

a) assets , movable or immovable property of great importance to the cultural heritage of every people, such as monuments of architecture, art or history, whether religious or secular; archaeological sites; the complex construction which, taken together, offer a historical or artistic interest; works of art, manuscripts, books and other objects of artistic, historic, or archaeological value; as well as scientific collections and important collections of books or archives or reproduction of property as defined above;

b) buildings whose main and effective target is to preserve or exhibit the movable cultural property as defined in paragraph a), such as museums, large libraries and the stock deposits, as well as refuges intended to shelter, in the event of armed conflict, cultural property as defined in paragraph a);

c) centers containing a large number of cultural property as defined in paragraphs a) and b), known as “centers containing monuments".

CULTURAL PROPERTIES

The definition of "cultural property" is provided in Legislative decree no. 112 of 31 March 1998 (activating Law 59 of 15 March 1997):

"*Cultural properties are those properties that compose the historic, artistic, monumental, demo-ethnoanthropological, archaeological, archival and literary heritage, and other properties which constitute a testimony of civic value, worthy of forms of preservation, management and development" (Article 148).*

The **European Convention on the Protection of the Archaeological Heritage**, signed in Valletta (Malta Convention) in 1992, provides a European-level legislative basis for assessment archaeology. The convention derives from the preceding history of environmental legislation, formally introducing the principle of “polluter pays” for cultural heritage. It establishes that the costs of preservation are at the expense of the actors whose projects would alter the territory, thus requiring the specific measures for implementation of protection.

The convention is legally binding in the matter, and shapes all European Community legislation and the legislation of the individual member states on the protection of archaeological heritage.

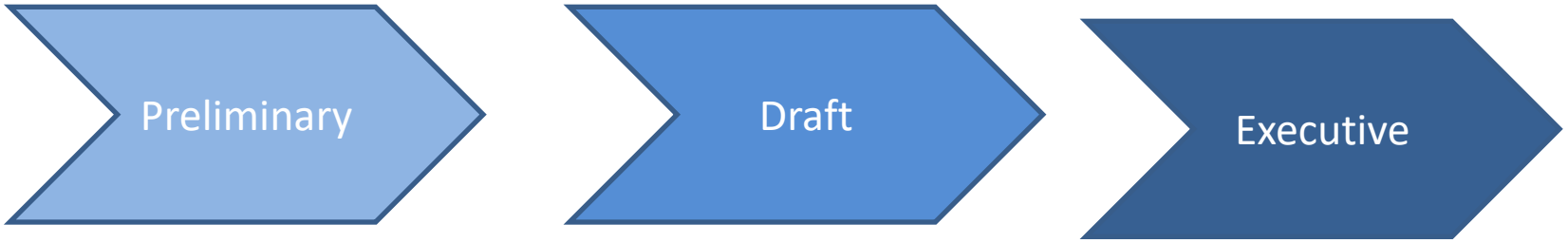
Italy accepted the principles of the Malta Convention in 2004 (Article 28, paragraph 4, Legislative decree 42 of 22 January 2004, “*Law for Cultural and Landscape Properties*”), and in 2015 became the most recent nation to officially ratify the convention (Law 57 of 29 April 2015).

The 2004 law provides that "*in case of the development of public works in areas of archaeological interest, even when there has not been previous verification or declaration of cultural value, the Superintendent may request the execution of preventive archaeological investigations in the area concerned, at the expense of the authority commissioning the public work.*"

Decree Law 63 of 26 April 2005 (transformed as Law 109 of 2005), regulates the implementation of "***Preventive verification of archaeological interest***", for purposes of "evaluation of the archaeological risk" of an area under examination, and for the implementation of any preliminary investigations that would permit the minimisation of the impacts of a works project on the archaeological heritage. Preventive verification and preliminary investigations are equally intended to minimise the risks to the project itself, such as from the extension of times for implementation, or increase in costs related to archaeological discoveries when works are already under way, which could require extensive investigations in the field and variations in the project.

Law 109 was subsequently recognised under Article 95-96 of the *"Law on public contracts concerning works, services and supply* (Legislative decree 163 of 29 April 2015). Under the overall legislative structure, the Ministry for Cultural Heritage and Activities and Tourism (Directorate General for Archaeological Heritage) has proceeded to provide general guidelines establishing the procedures to be followed during the **preliminary**, **draft** and **executive** stages of a project.

PROJECT STAGES



The ratification of the Malta Convention, occurring with Law no. 57 of 2015, rendered evident that there had been substantial delays in the matter, and imposed an accentuation of the preventive aspects under the existing legislation. This was to some extent accomplished by a Ministerial decree, while awaiting the reform of both the Law on Contracts and the Law on Cultural Heritage, to bring these more in line with the international obligations on the matter.

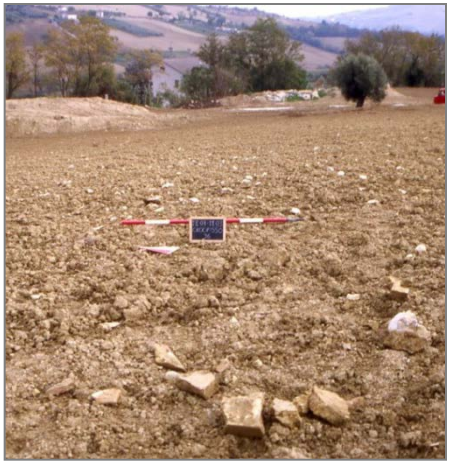
Administrative circular 10/2012 of the Directorate General for Antiquities, as well as Circular 1/2016 of the Directorate General for Archaeology, provided clarification and detail on the means of applying assessment and preventive measures, and were ratified under the very recent "*New law on public tenders*" (Law 50 of 18 April 2016; Article 25).

ASSESSMENT OF ARCHAEOLOGICAL RESOURCES

Preliminary project stage (Legislative decree no. 163, 12 April 2006, Article 95, "*Assessment of archaeological resources in the preliminary project stage*")

Prior to the approval, the authorities conducting the call for tenders submit a copy of the preliminary project to the Superintendent responsible for the territory, including the results of the preliminary geological and archaeological analyses, as follows:

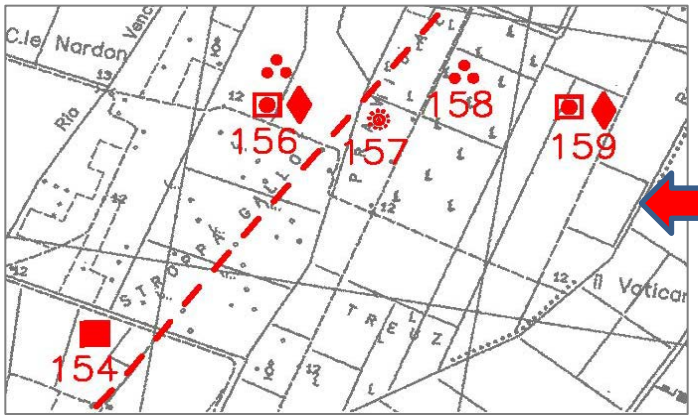
Motta (Medieval village)



Area of roman pottery fragments

Crop marks on an air-photo of Ostia.

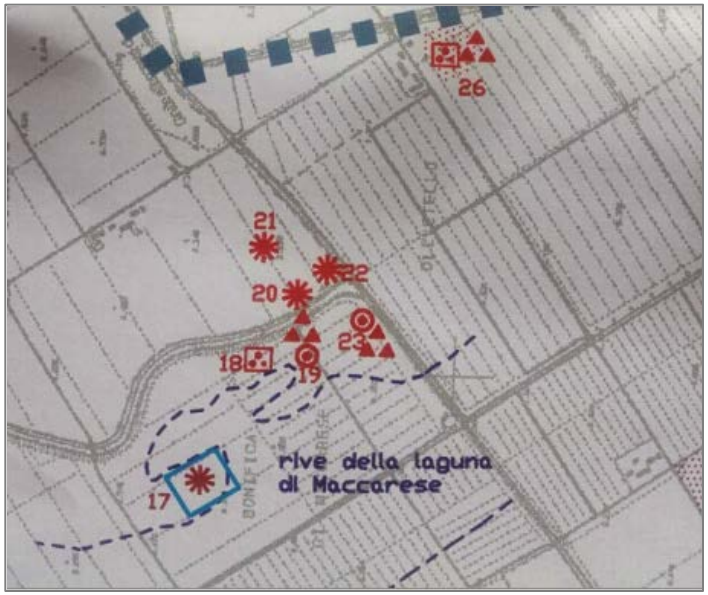
- *Research of puplished and archival material*
- *Cartographic analysis*
- *Toponymic analysis*
- *Air-photo analysis*
- *Surface survey results.*

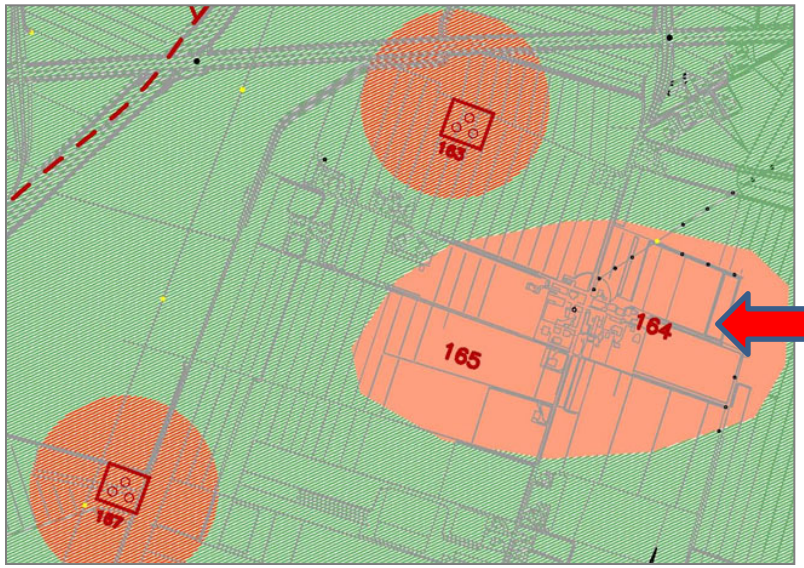


Maps of Archaeological Resources

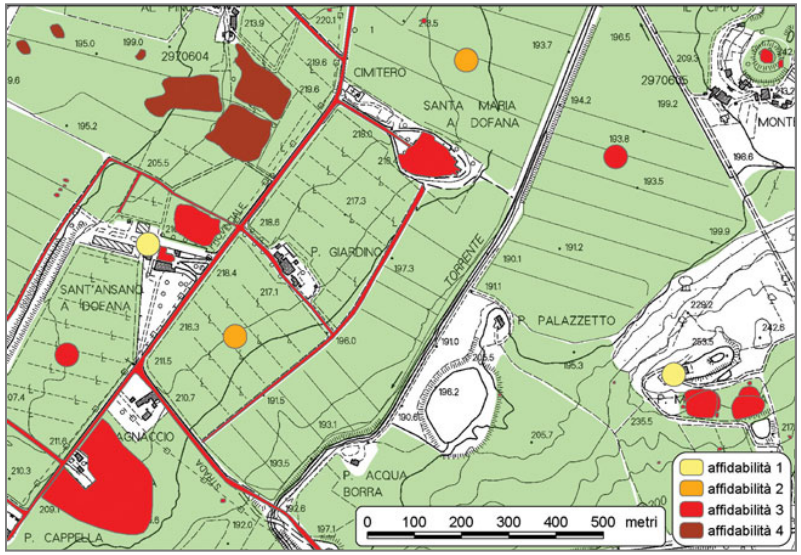
Red symbols indicate different site types .

The analysis of all data serves in preparation a *Map of Archaeological Resources*, and definition of the Levels of Archaeological Risk for the area affected by the proposed project.

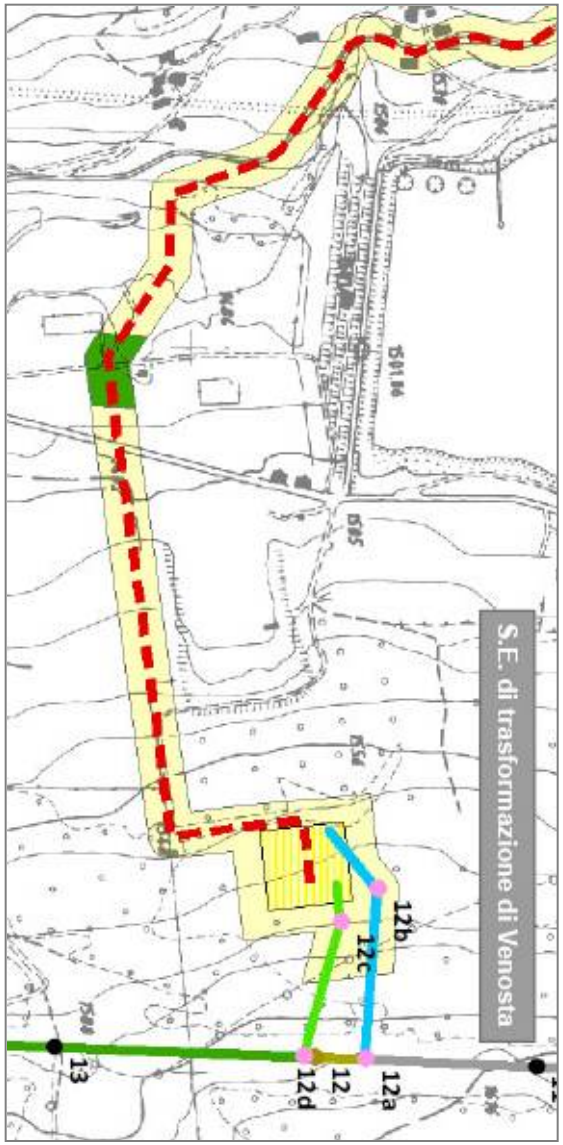




***Map of Archaeological Risk*, showing risk levels in different colours.**



The levels are also presented in map form, and are defined in terms of Absolute or Potential Archaeological Risk, meaning the risk of sites and materials in the area independent of the type of work being planned, as derived from the analysis of the combined risk factors for the various types of materials.



The evaluation of **Relative Archaeological Risk** indicates the risk relative to the execution of the proposed project, and is developed based on examination of the degree of absolute archaeological risk relative to the type of project and the specifications for its parts.

Map of Relative Archaeological Risk **for an electrical transmission line in Val Venosta (Bolzano): yellow and green indicate areas of low and medium risk.**

Draft and executive project stages (Legislative decree no. 163, 12 April 2006, Article 96, "*Assessment of archaeological resources in the preliminary project stage*")

The assessment process includes two further stages for the identification and comprehension of the significant archaeological elements:

a) Supplementary to the preliminary planning:

Indirect and direct investigation providing adequate sampling of the area affected by the project (geophysical and geochemical surveys; coring, trenching, test excavations).

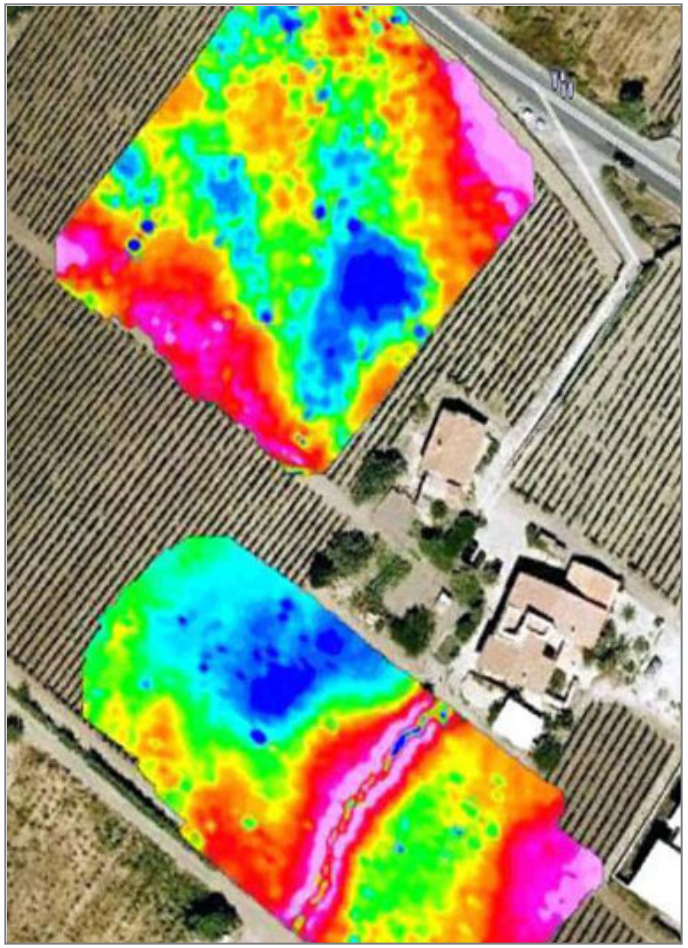
b) Supplementary to the draft and executive planning:

Sampling and test excavations, including extensive surface areas, as necessary.

The results from the direct investigations permit the precise evaluation of the compatibility of the components of the development project with the preservation of archaeological heritage.

The assessment draws on a variety of techniques, based on the specific characteristics of the archaeological context, including the types of settlements or buried structures. The considerations include the geo-lithological features; logistical conditions in the project area; disturbance from infrastructure, inhabited and industrial areas; presence of electrical and rail lines.

The techniques applied can be both **indirect** (geophysical and geochemical surveys) and **direct** (coring, exploration trenching, stratigraphic analyses).



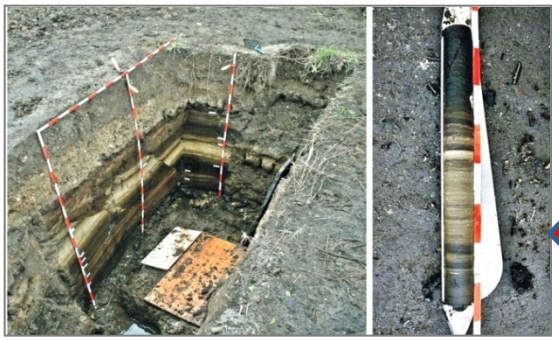
Example of geophysical reconstruction

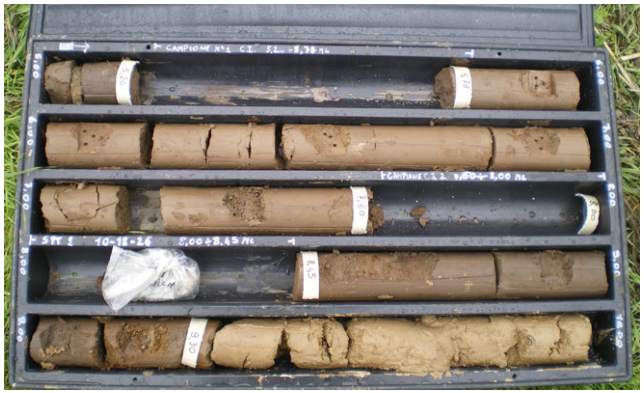
Indirect investigation

Geophysical surveys rely on the measure of variation in physical characteristics (magnetic and electrical fields) for the assessment of spatial and temporal variations in the terrain. These measures serve in the reconstruction of the dimensions, depth and features of any buried archaeological structures. The techniques used include:

- Magnetic survey
- Electrical survey
- Electromagnetic survey
- Geo-radar survey

  (particularly useful in identification of underground voids).





Direct investigations

Direct investigations are used in areas where archaeological features are suspected, and to determine the character and dimensions of features already known.

Coring

Coring is used to determine the depth and extent of archaeological strata. The technique is particularly useful in intensely built areas where test excavations would be difficult .

Exploration trenching

Trenching can be used in open areas where the presence of archaeological features is hypothesised, for example based on photographic anomalies or materials found during surface surveys.

Test excavations

Test excavations and stratigraphic analyses are typically used to assess the extension and importance of features already known to exist through other investigative techniques.

The legislation in force provides for a listing of the institutions, university departments and other public and private bodies qualified to participate in data collection and analyses for the assessment of archaeological resources during preliminary project stages.

The list ensures transparency and objectivity in the assessment process, efficiency and timeliness of execution, and greater effectiveness in the preservation and management of the national archaeological heritage.

MODI - Notation form

The Directorate General for Archaeological Heritage has agreed that the archaeological documentation will be produced according to ICCD norms, in particular using the **MODI Notation Form**.

The MODI is a norm for simplified data acquisition, serving in a range of activities prior to full cataloguing:

- Censuses
- Alerts, provision of basic information on the property
- Heritage inventories
- Organisation of lots of materials
- Salvage of assessment Archeologhy
- Indentification of Areas of Archeological Potential.

Compilation of the MODI form requires the entry of minimum dataset, providing the minimum information for the identification, definition and localisation of the property is in question.

- Identification
- Definition
- Location
- Dating
- Data certification e management.

Compilation of the requisite information permits the acquisition and management of the MODI data under *SIGECweb* (*General Catalogue Information System*), and thus:

- Increase in the knowledge base concerning the national culturale heritage
- Use of the data for the preparation of full catalogue sheets, under the direction of the responsible Superintendency (SIGECweb permits the transfer of the MODI data to the various ICCD catalogue sheets).

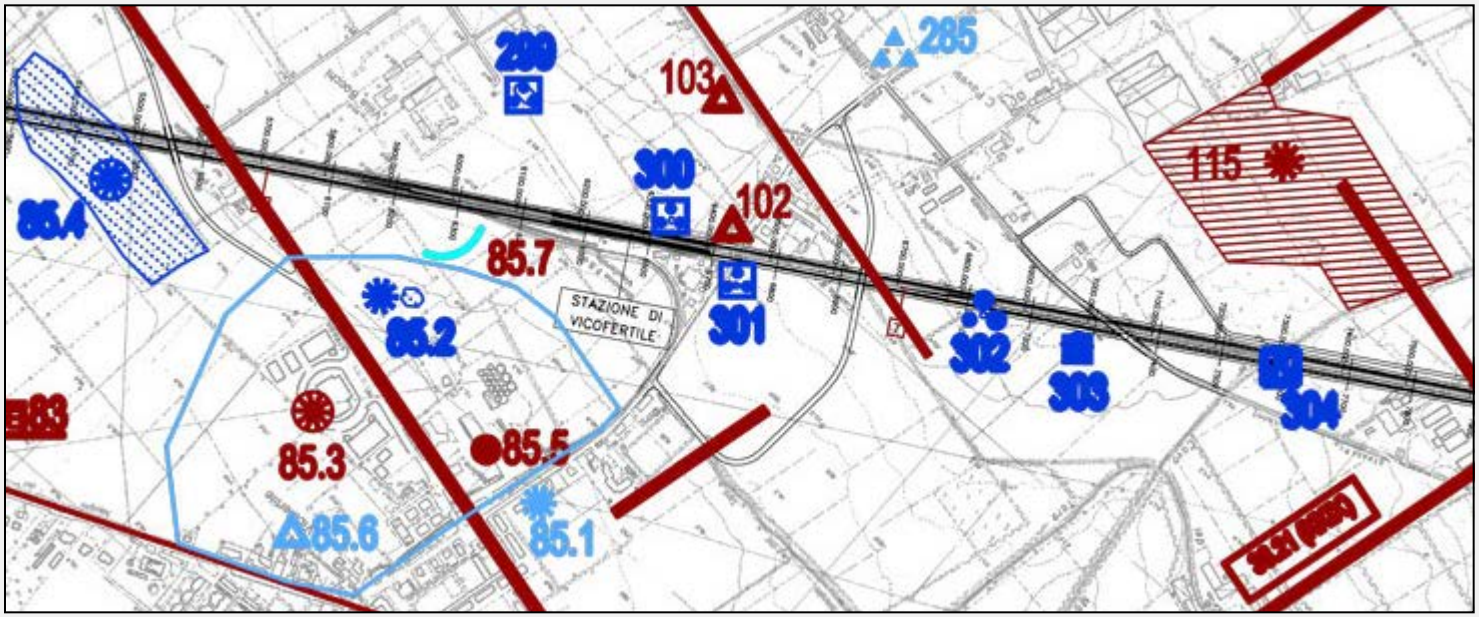
The MODI is a single multifunction norm, useful in assessment archaeology for the mapping of individual immovable and movable properties or for recording an entire area showing distinct geo-morphological characteristics. The properties catalogued can be identified by different kinds of investigation:

- Research in published literature
- Archival research
- Toponymic research
- Identification of anomalies through air-photo analises and photo-reconstruction
- Archaeological survey
- Indirect investigations (geophyisical and geochemical surveys)
- Direct investigations (coring, trenching, test excavations).

In addition to the minimum fields (highlighted in red), the submission of a MODI form for archaeological properties requires the compilation of further descriptive fields, identifying the features on the basis of the on-site and documentary research for the particular case.

EXAMPLE

The example presented is from the *Assessment of Archaeological Resources* for the Draft Planning of Infrastructure Enhancement for the Parma-Osteriazza Rail Line. The assessment identified an *Area of Archaeological Potential* in the Lemignano-Vicofertile localities of the Municipality of Parma. The zone included an area of the Parmense Plain (region of Emilia Romagna), that was subject to intense human activity from the prehistoric to the Medieval. The maximum development occurred in the Roman era, when the territory was subject to agricultural land division (see Centuriation, Map sheet 36 and sub-sheets), leading to a complex rural settlement pattern.

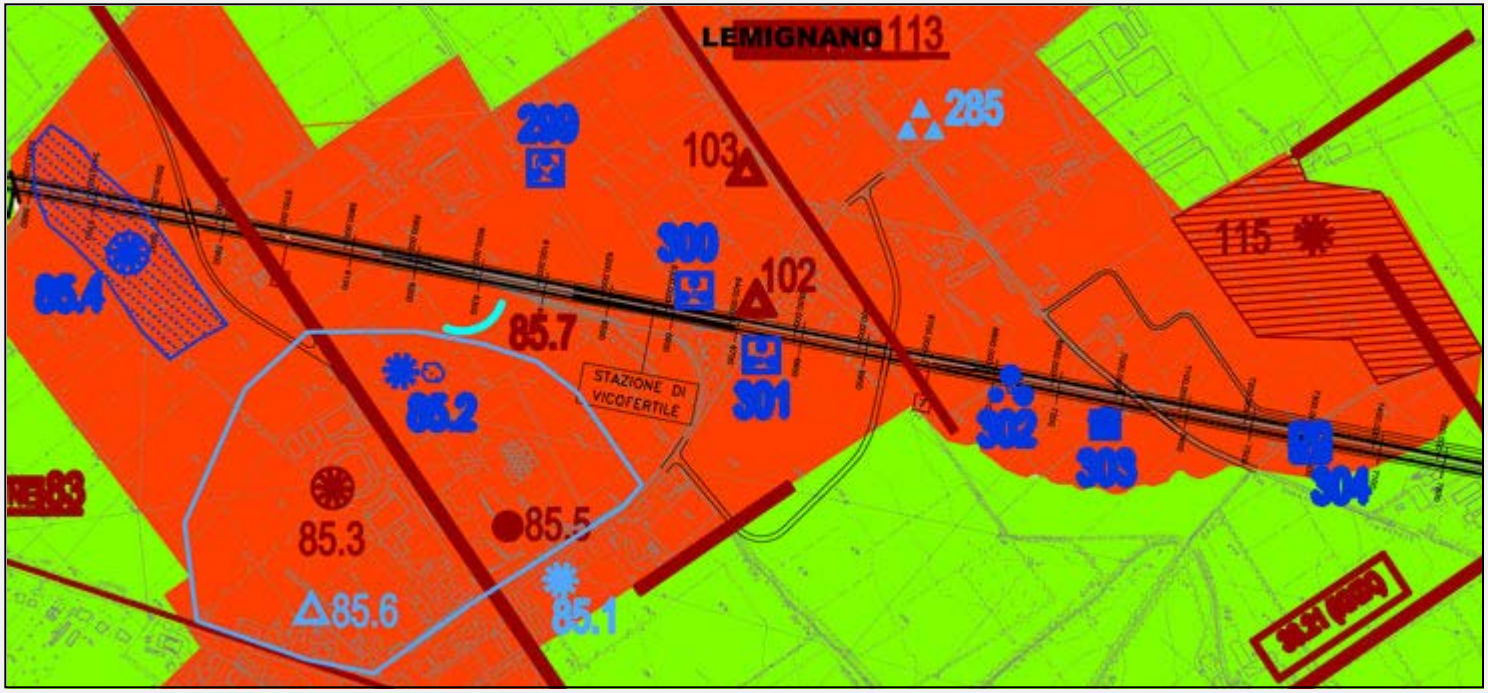


The investigations included literature, archival, cartographic and toponymic research, air-photo analyses and ground surveys at the visual level. All sites and features identified were included in the *Map of Archaeological Resources.*

Red - Identification from **literature**

Light blue - Identification by **archival research**

Dark blue – Identification by **archaeological survey**.



Zones of high and medium archaeological risk were then identified, through analysis of all data.

Degree of Risk:

Red - **High** archaeological risk

Green - **Medium** archaeological risk.

The MODI Notation Sheet provides for the recording of individual archaeological features, from the level of a place name or rural villa to entire areas of archaeological potential.

INDIVIDUAL ARCHAEOLOGICAL FEATURE

The example provided is the recording of the *Lemignano* **toponym**.

Toponymic study serves in the reconstruction of historic territorial uses, including in the absence of archaeological remains.

Lemignano is a Roman "praedial" place name, deriving from the custom of indicating land ownership by the owner's name (in this case *Lemius/Villius* [?]), with the addition of the Latin praedial suffix "-*anum*>-ano", indicating ownership. The Lemignano place name could thus be an indication of a Roman-era rural settlement.