THE YOUNG AND THE ARCHITECTURAL HERITAGE

PILES
PJOVERI
SHELTERS
COTTAGES
BUNJE

TECHNICAL EDUCATION PROJECT

Participants:

Students from elementary school Pučišća, 5. – 8. grade

Mentor: Anton Matković, TE teacher

OBJECTIVES:

- ***to introduce drywall architectural heritage***
- ***to comprehend the importance of drywall construction***
- ***to develop sensitivity for cultural heritage, its protection and economic validity for the renewal***
- ***to develop key competences: communication in mother tongue, learning, mathematical and technical competences, using digital techonologies and social skills in the multicultural environment***

TASKS:

To explore the environment, to study drywall objects across the landscape
To collect data and to make photos about the locations with drywall heritage
To map and name the chosen locations using the local toponyms
To conduct interviews with local residents (history, purpose, use)
To study and describe the drywall build style around individual locations
To make drafts and technical drawings of certain objects at the locations (sites)
To describe and explain the ratio between every detail on the draft (sketch)
To practice drywall construction (piles and paths)

PROJECT RESEARCH CONNECTS SEVERAL TEACHING SUBJECTS:

History
Geography
Technical education
Art
Maths
ICT

OUTCOMES (measurable results):

- *Working journal*
- *Photos*
- *PP presentation*
- *Sketches*
- *Pile models*
- *Double piles made in whole length*

PROJECT REALISATION
Research chronology

- Part one - SHELTERS
- Part two - *PJOVERI*
- Part three - COTTAGES
- Part four - *BUNJICE*
- Part five - PRACTICAL WORK

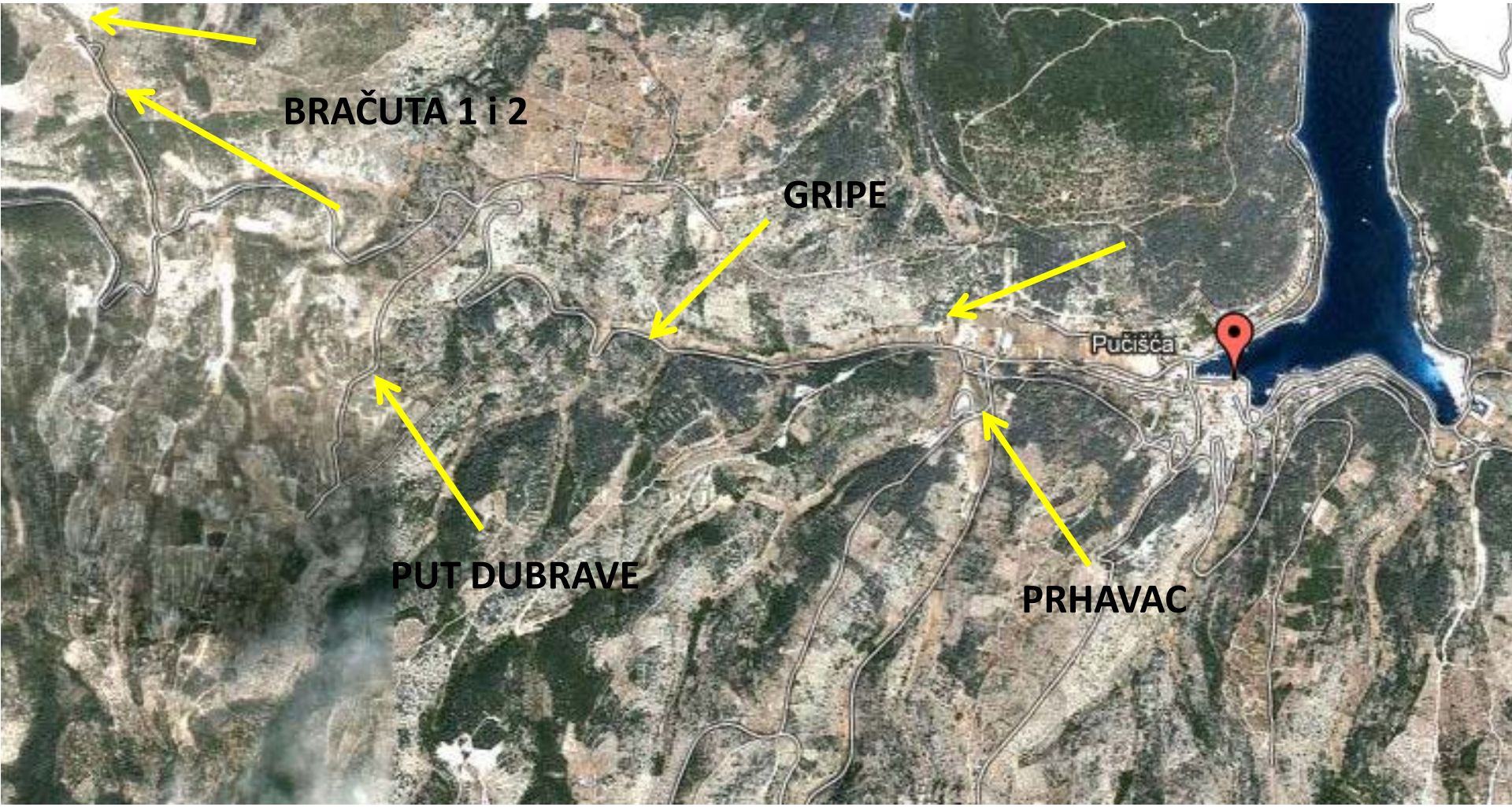
Methodology

- Landscape research, studying drywall objects
- Classifying the objects
- Collecting data (taking photos, measuring, drafting, interviewing the local residents)
- Studying the literature
- Processing the collected data (Word and PP presentation)

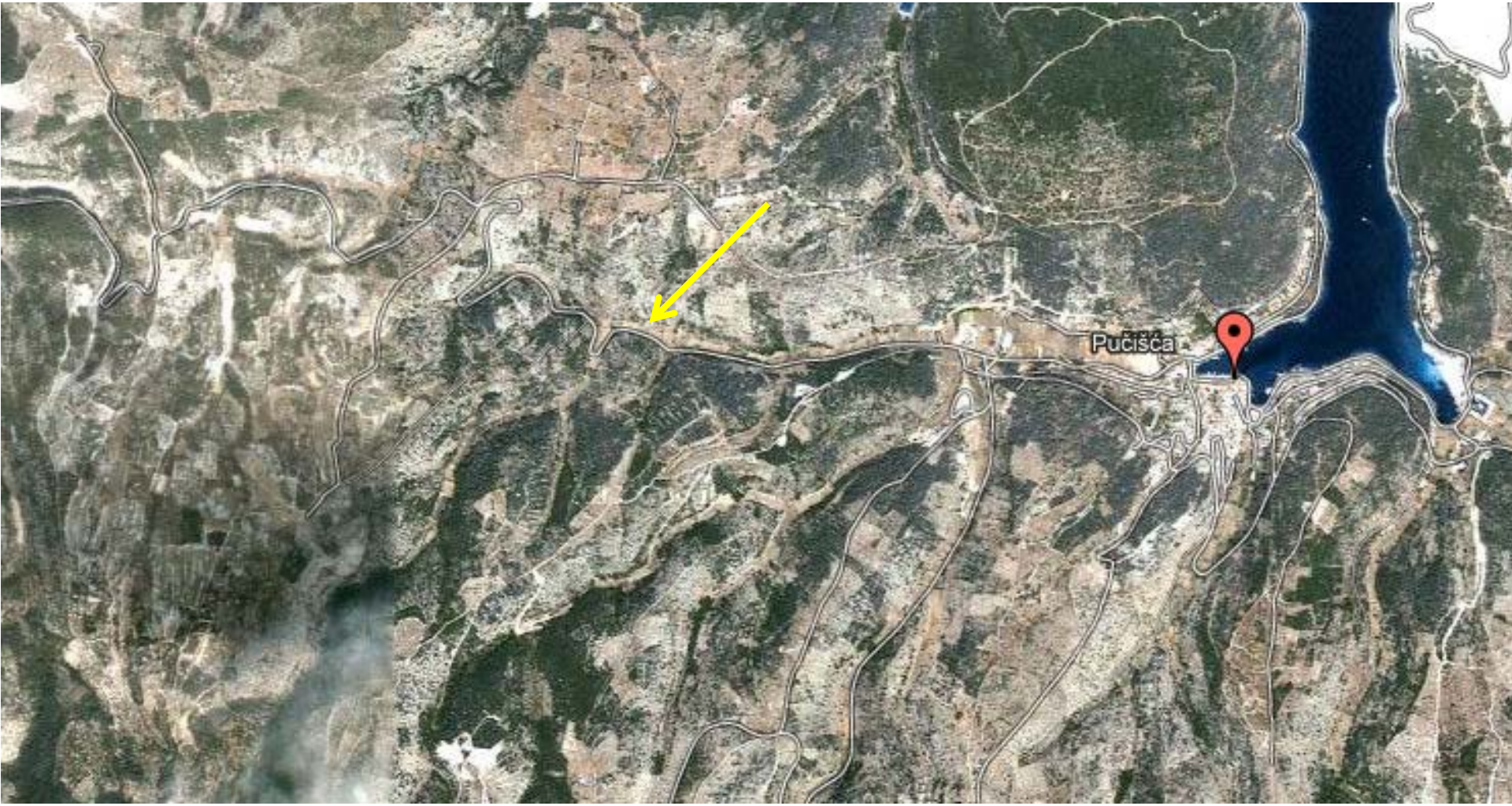
- ***Explored areas are mapped***
- ***All the field work was carried out on Brač (Pučišća area)***
- ***The processed drywall objects aro also mapped***


SUTIVAN
Mirca
SUPETAR
Splitska
Postira
Pučišća
Bobovišća n/m
Ložišća
Donji Humac
Škrip
Dol
Bobovišća
Milna
Dračevica
Nerežišća
Povlja
Pražnice
Novo Selo
Gornji Humac
Blaca
Vidova gora 778m
Selca
Sumartin
Murvica
Bol

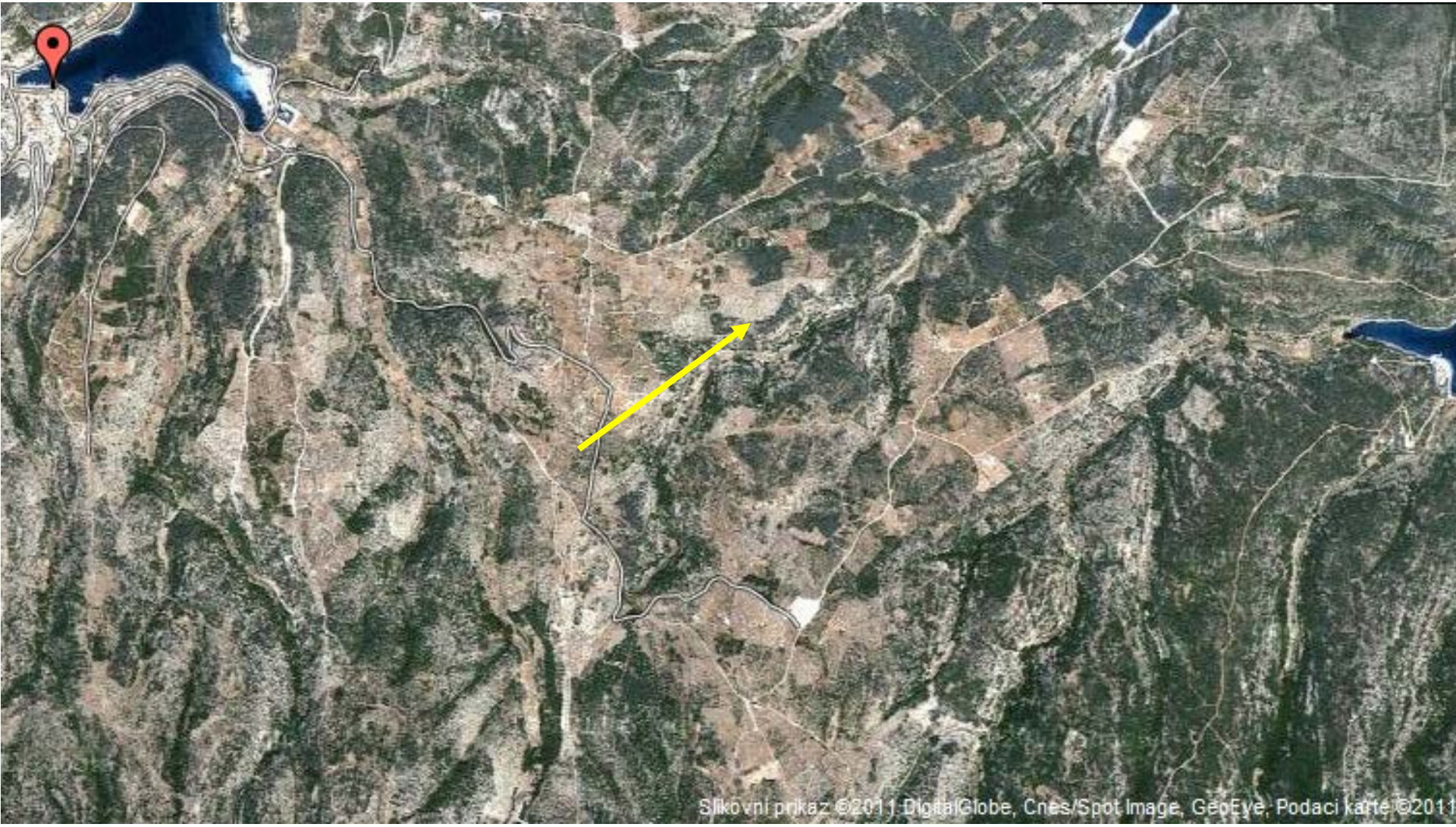
Bunjica position



Gripe shelters position

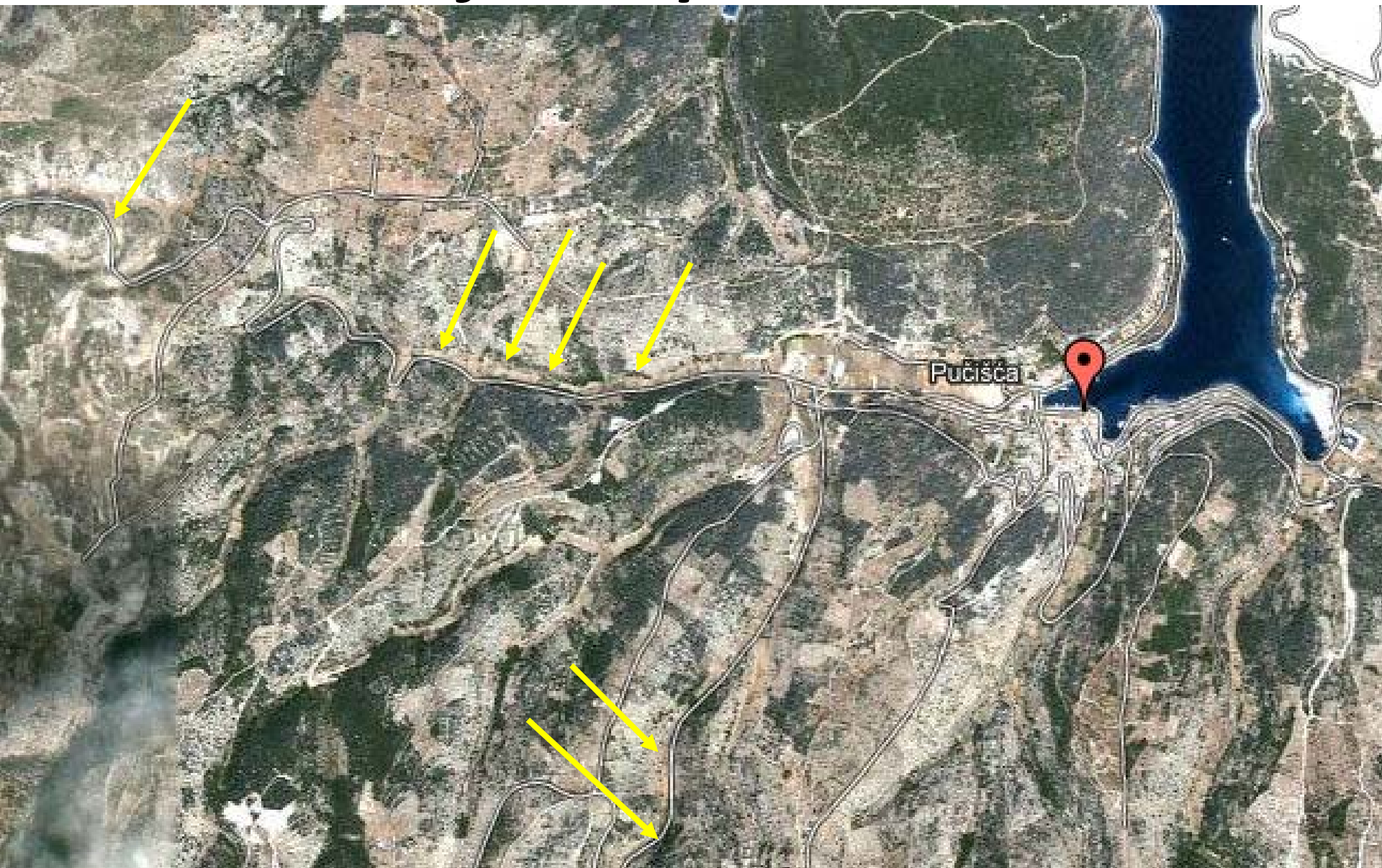


Čad shelters position



Cottages' position

Pjoveri position



ABOUT DRYWALL HERITAGE

- Drywall objects (buildings) are situated among stone piles, walls and sometimes go unnoticed
- They are discreet, in harmony with the environment, but nevertheless very significant for the people of Brač

Traditional drywall objects were used by local populace:

- **as the SHELTERS from the bad weather**
- **as the STORAGES for the fruits**
- **as the RESTING PLACES during the hot summers**
- **as the LODGINGS during seasonal field labour**

- Although they were built in distant past, most of them (processed in this project) are not so distant
- According to the locals they are from 50-400 years old
- They can impress with their quality and position in nature

SHELTERS

PJOVERI

BUNJICE

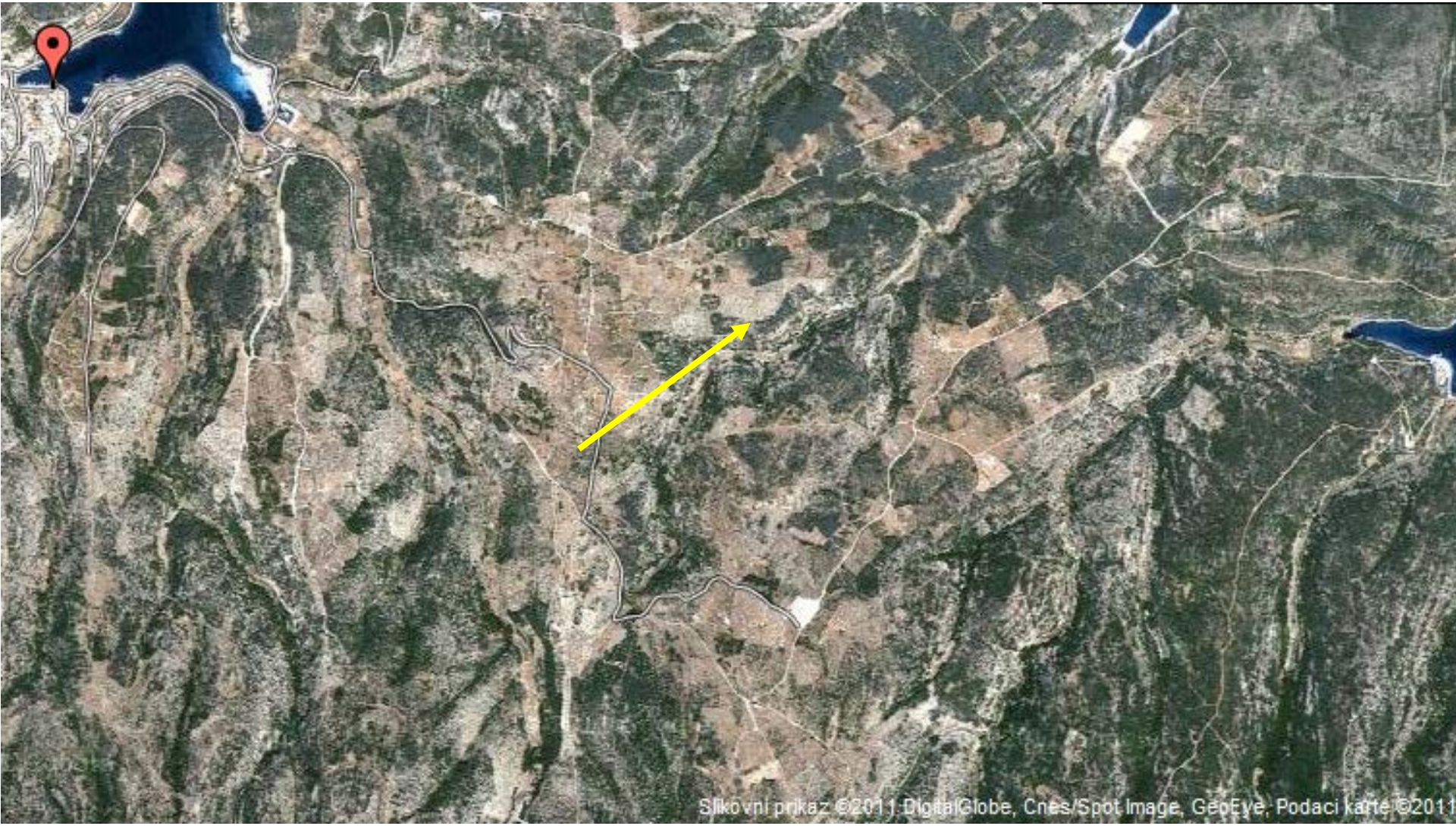
DRYWALLS

COTTAGE

Part one

SHELTERS

ČAD SHELTERS POSTION



CONSTRUCTION STYLE

- Shelters are small objects built using dry stones-no connective materials
- They are round or square
- They are built by stones found nearby
- They are covered by stone panels

- Bad weather conditions were unconevnient for the Brač peasanats
- These shelters used to provide protection for the peasants

The shelter could have protected at least one person


156
100
90

- The purpose of these shelters was the protection from the rain and cold winds

SUMMARY

- ***The shelters are square or half round drywall stones***
- ***The roof is maed of stone panels***
- ***The roof panels lean on wooden joists***
- ***Most of them are neglected***
- ***It would be nice to renew and expose them to the public***

Part two

PJOVERI

- ***Pjover is a natural drainor or a water collector***
- ***They go unnoticed in nature***
- ***Most often they are the parts of piles or fences, or sometimes independent objects in the fields***

- ***They have a special purpose***
- ***Stone panels like roof panels shape the surface***
- ***At the bottom there is an opening covered with stone which hides the water tank***

What are pjoveri used for?

- ***Stone panels and natural canals and drains enable to collect water in a natural tank***
- ***To collect more water people used to build additional walls, holes or they just widened the stone surface***

- ***Large amounts of water were collected by using the natural downfall of surrounding rocks***
- ***'' live rock'' enabled longer water retention***
- ***Water collecting increased the possibility of survival and improved life conditions***

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- ***The collected water was used to soak soil***
- ***That water was used to grow cultures uncommon for the mediterranean climate***

- ***Sometimes nature itself stores the water for the survival of plants and animals in the environment. The best example are two dents on Bračuta hill that later became puddles called BLIZNICE***

- ***The first bliznica is separated by stone shoal, and the second one was altered by human hand to increase the tank area***

- **The water tank located under the *pjover* made of stone, reinforced by concrete, enables the soaking of nearby vineyards**

SUMMARY

- **Every water drop is precious, especially on the islands in Dalmatia**
- **Hardworking peasants use every opportunity to collect and preserve water**
- ***Pjoveri* significantly help to collect water**
- **They (*pjoveri*) used to be natural dents, but today after some human interventions they increase water tanks**

Part three

BUNJICE

- **Man has always tried to find shelter from bad weather (under the tree, rock, in the caves, etc)**

Prehistorical period on Brač

Historical artifacts prove that people lived in special habitations in Dalmatia, and on the island of Brač before Christ

- **These small, round based houses can be seen today all over the island and especially in and around Pučišća county.**

- **They stand proud, lonely, built everywhere (near olives, piles, paths, fences...)**

- **They are small works of art that belong to primitive and simple architecture.**

- *To hide from the wind, rain or sun*
- *To have a break or snack*
- *To feel safe…*

…All was and is provided by bunjice

- **They are still of use today if you want to get away**

It has several names in Dalmatia:

- ***kućarica ili trim (Bukovica)***
- ***bunja ili ćemer (Šibenik)***
- ***kućica, kućerak, bunja ili pećina (Brač)***
- ***poljarica i pudarica (Dalmatinska Zagora)***
- ***kažun ili kašun te komarda (Istra)***
- ***jama ili trim (Hvar)***
- ***komarda (Krk)***


S
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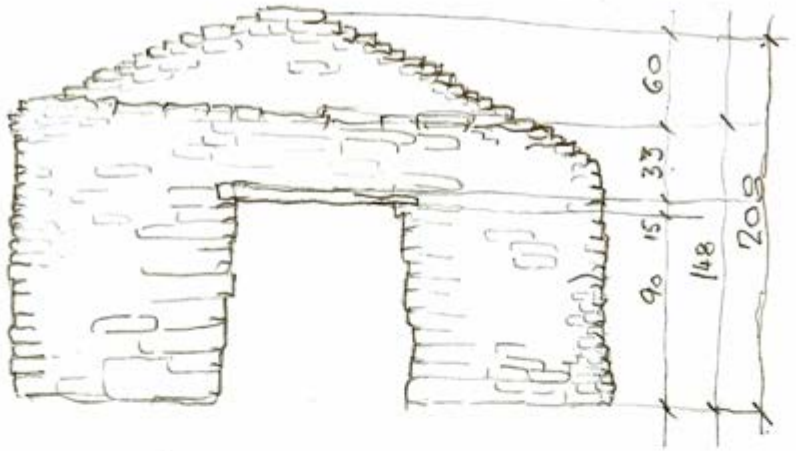
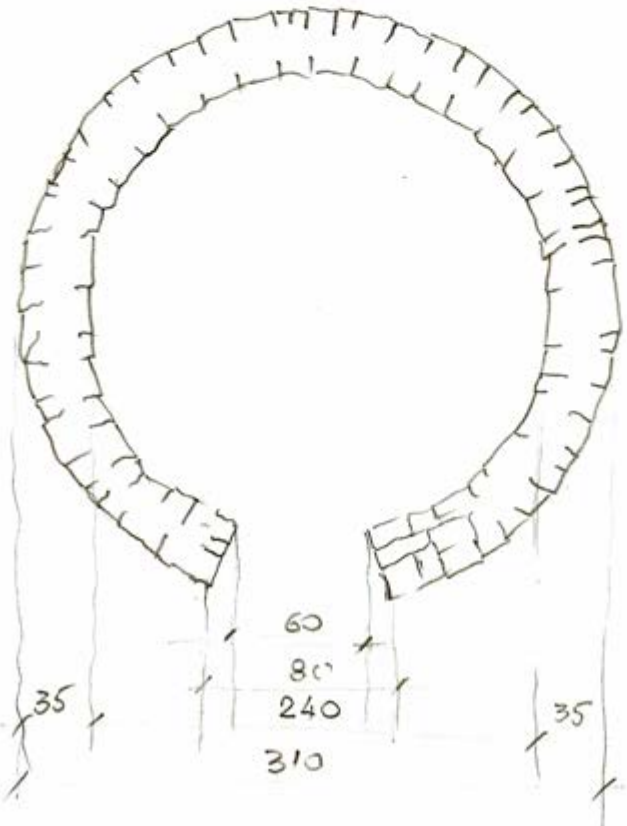
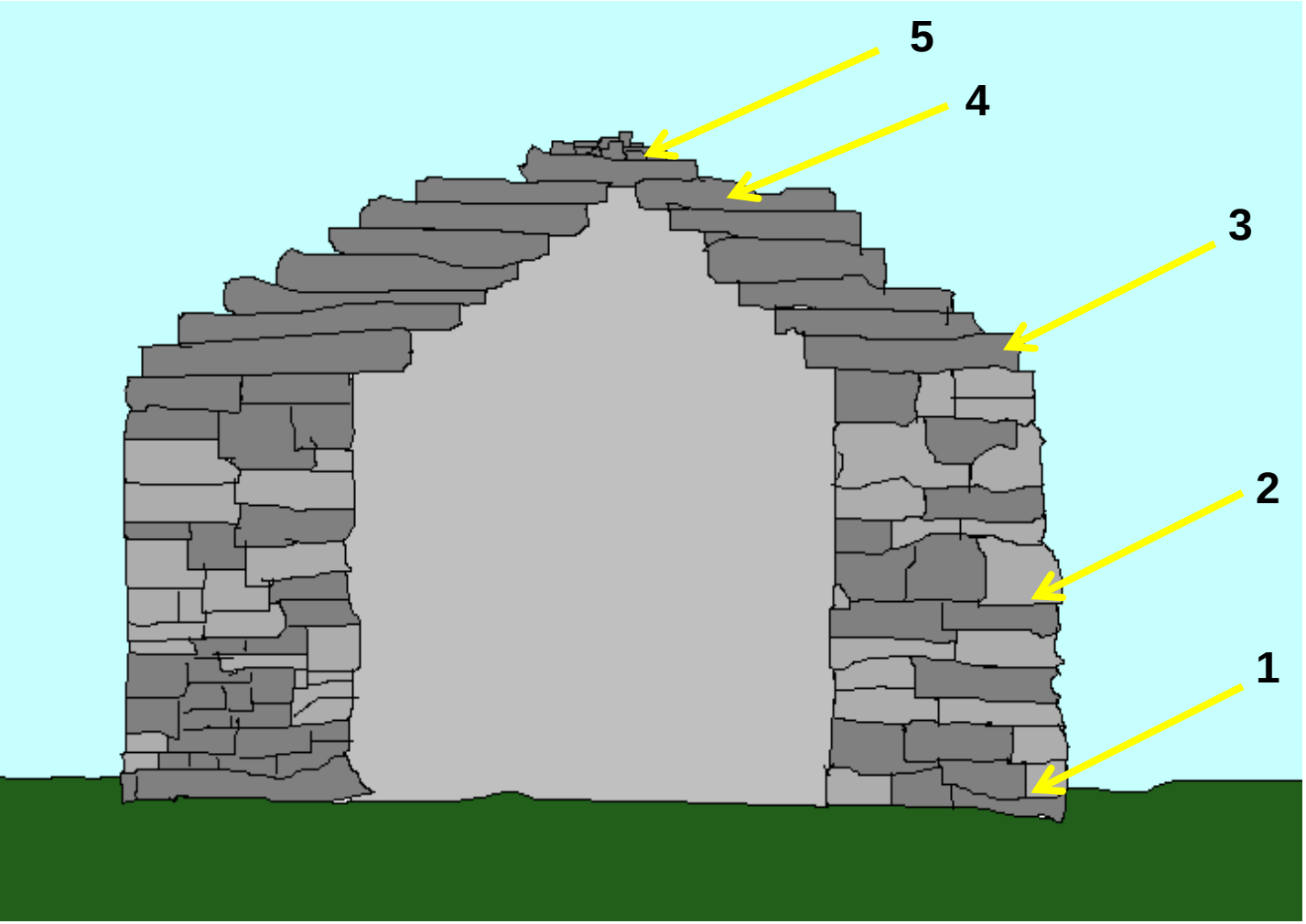
W
N





the basic measurements are:
height-208 cm
outer diameter-310 cm
inner diameter-240 cm
door width-60-80 cm
door height-80 cm
wall thickness-35-40 cm

- ***Bunjica*** **impresses with its roof panel order. The roof is completely impermeable, without truss or any connective material. It is made only from stone panels.**



1-bunjica foundation
2- different size stone
3-stone panels for the roof
4-the final panel that is added to the roof and shut with small stones
5-different size panels

Part four

Cottages

- **They are square, bigger and more complex, built by drywall technique**
- **The walls are built using stone squares and smaller size rocks**
- **The roof is made of stone panels and round wooden billets**

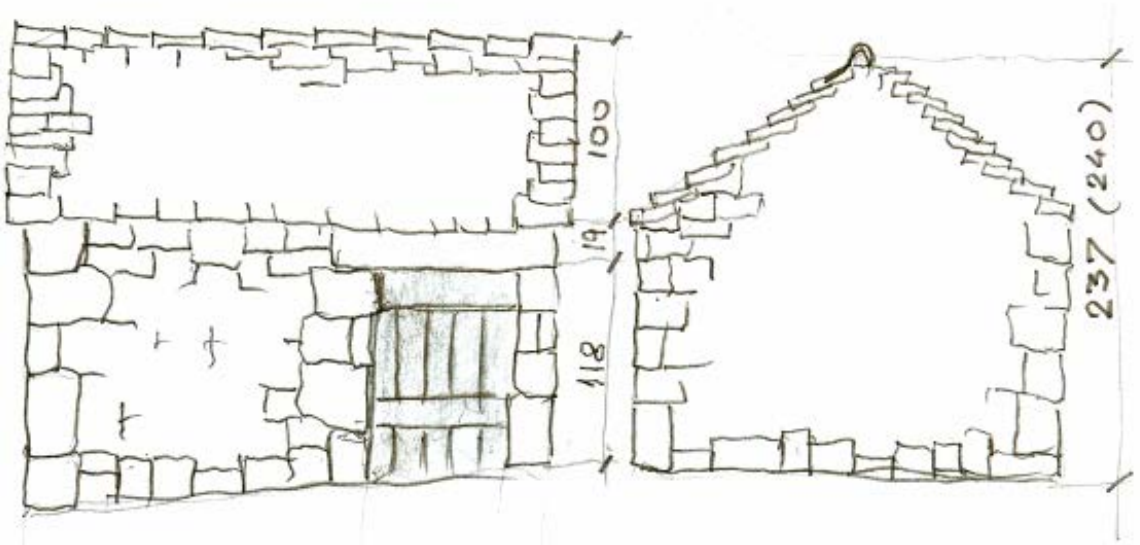
- **Field cottages were traditionally built for farmers and shepherds**
- **They provide them safe haven during bad weather**

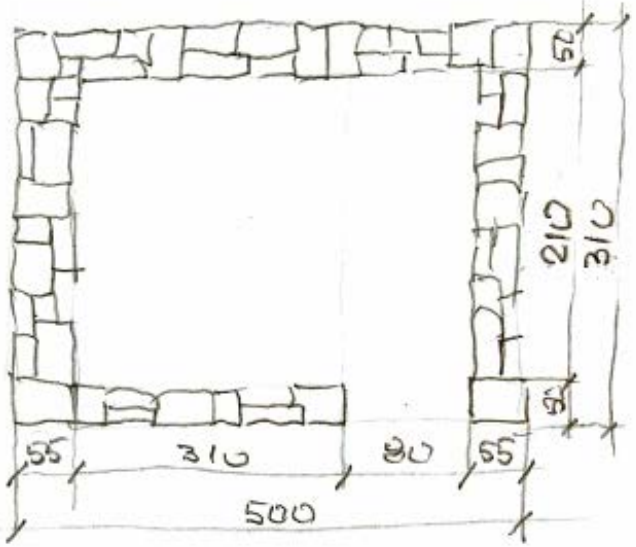
Example one

- **An old cottage is located on the left side of the road at the crossroads from Pučišća to Pražnica**

It should be restored

BIG HEADER STONES AT THE CORNERS AND AROUND THE OPENINGS


100
19
118
237 (240)


50
210
310
30
55
310
80
55
500

The need to preserve traditional objects and architectural heritage

- There are many abandoned and neglected objects on the island of Brač
- Each of them has its own story and history
- Some objects were renewed and implemented into daily life
- One of them is on Bračuta, near St George's Church


N
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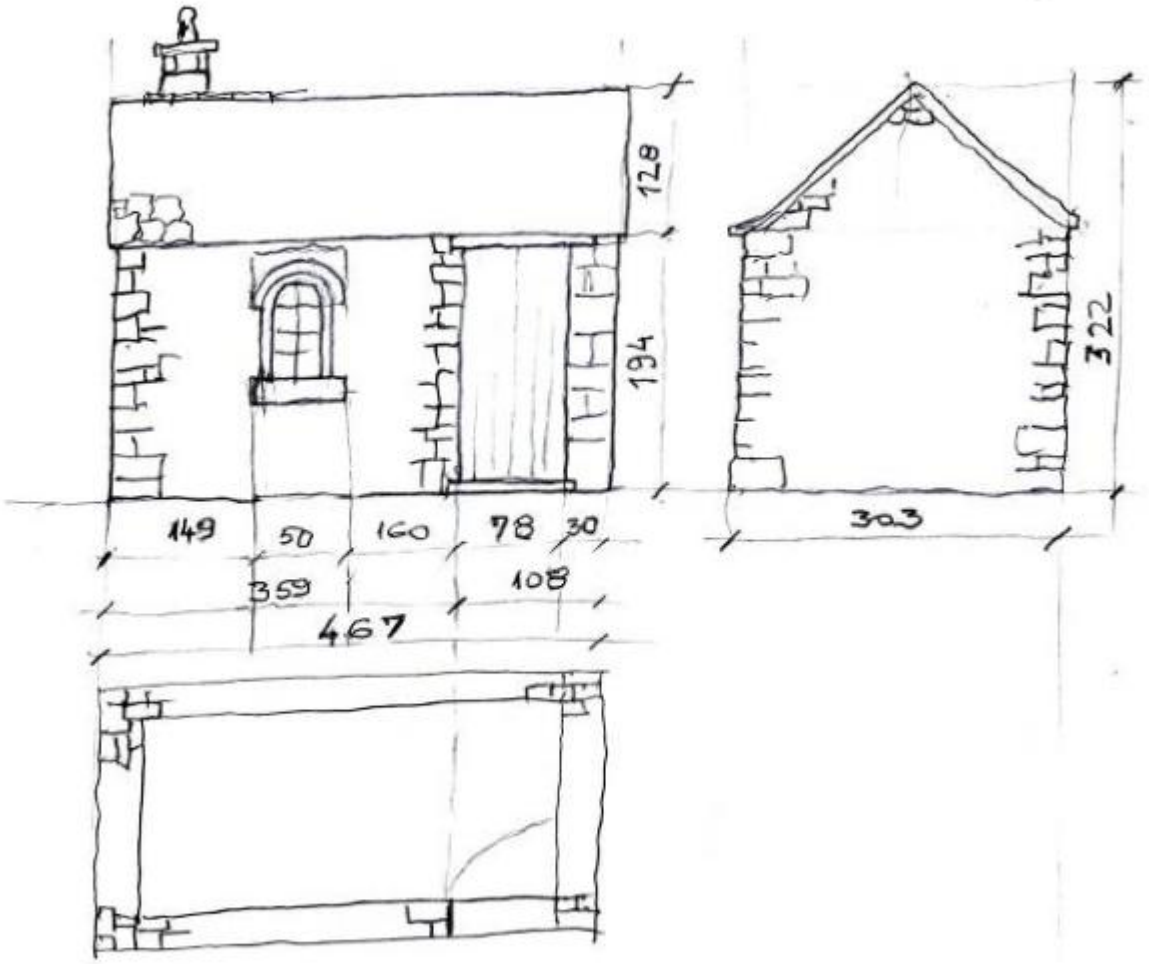
S
W

New cottage


128
194
322
149
50
160
78
30
359
108
467
303

- **Here you can find out about 2 cottages (from 6 processed in the project)**
- **We found out several interesting facts**
- **The size ratio is shown in the table**

MEASURES (cm)	*P1. kućicaUT PRAZNICA*	*P 2. BRDARINA*	*P3. PRHAVAC 2*	*P4. KOD SV.JURJA -older-*	*P5. KOD SV.JURJA -newer-*	*P.6 PRHAVAC1*
HOUSE LENGTH	500	495	498	492	467	289
HOUSE WIDTH	310	319	310	298	303	250
HEIGHT WITH ROOF	237	231	245	240	322	274
DOORS WIDTH	80	78	80	85	78	66
DOORS HEIGHT	118	115	140	150	190	113
THICKNESS OF THE WALL	55	55	55	50	30	44

“THE GOLDEN RATIO” RULE

The *golden ratio* is a compositional rule where the smaller part is related to the bigger part as the bigger is related to the total. In practice, if we want to divide something in this way, we divide it in 13 parts in 8:5 ratio, or we divide it in 21 equal parts in 13:8 ratio.

- **The golden ratio rule has been known since the Antique period. It was widely used during the renaissance (when artists and mathematicians sought perfection. The golden ratio has been considered as the perfect size ratio, and a harmony between precision and chaotic imperfection**

Conclusion

- **Old builders proved the knowledge of ancient architectural laws.**
- **Slight deviations during the measurements are understandable. We are, after all, still inexperienced in measuring and seeking average size value.**

Size ratio shows the golden ratio rule

- *length 500 495 498 289 497 467*
- *width 310 319 310 250 298 303*
- *ratio 5:3 5:3 5:3 3:2,5 5:3 5:3*

- *next cottage ratio*

8:5 or

13:8 etc..

The cottages fit perfectly in the landscape with their color, shape, size and beauty

Part five

Practice

Drywall construction

Drywall is made of natural stone without any connective material. This skill has been a traditional heritage of Mediterranean area since pre history. Hardworking farmers have used stones to make impressive buildings for centuries.

- **The nearby stones were used also to build fences.**
- **Different size stones were used for building small walls, while small stones and sand were used to fill up gaps in the wall.**

- **We seeked for wisdom from a grand master who still practices drywall technique. Mr *Joze Martinić Meštrante* tried to teach us some of his skills. We managed to create 30 m long drywall.**

- We have spent 4 hours doing the drywall. We have also left a small piece of history for future generations. We want to participate in preserving the traditional architecture and to present it to the public.

- **People of Brač will still use their cottages, they will preserve their fields, olives, fences but maybe not in a way their ancestors did.**
- **Modern technology and the machines should not prevent us from remembering our heritage.**

- **We give a small contribution to preserve our heritage (we use stories, photos, work)**
- **This is ours and it must stay ours.**

- ***Participants:***

- ***Šime Vrandečić, 8. grade***
- ***Lorian Martinić, 7.grade***
- ***Tomislav Martinić, 7.grade***
- ***Srđan Eterović, 6.grade***
- ***Stipe Kaštelan, 6. grade***
- ***Luka Radić, 7.grade***

- ***Mentor: Anton Matković, TE teacher***