

# DETECTION OF REINFORCING ELEMENTS AND PRESTRESSING TENDONS INSIDE BRIDGE STRUCTURES HIGH RESOLUTION GPR

## Project:

Interventions for structural reinforcement of a bridge - ring road Siena-Bettolle (km 33 +751 and km 41 +762).

## The purpose of the survey:

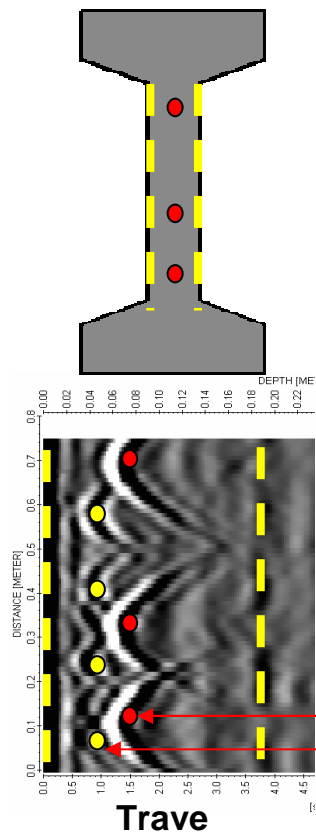
Verify the presence and the position of prestressing tendons placed inside of a beam external of the deck, to which will be hooked up an additional structure for the widening of the road .

## Survey Design:

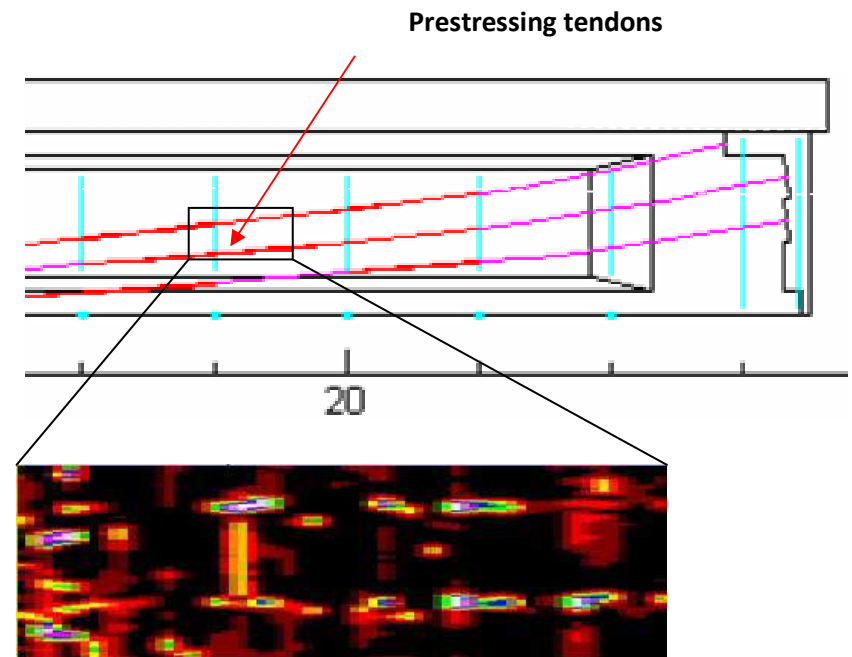
GPR survey with an antenna of high frequency (1.5 GHz) and with lines of acquisition vertical spacing of 0.2 m on the external side of the beam

## Results:

The survey has precisely located the presence of prestressing tendons (verified by excavations in some control points) in order to carry out interventions for attaching the new deck safely.



High frequency antenna mounted on a special cart  
(1.5 GHz)



Tomography of the radar amplitude  
(time slice)