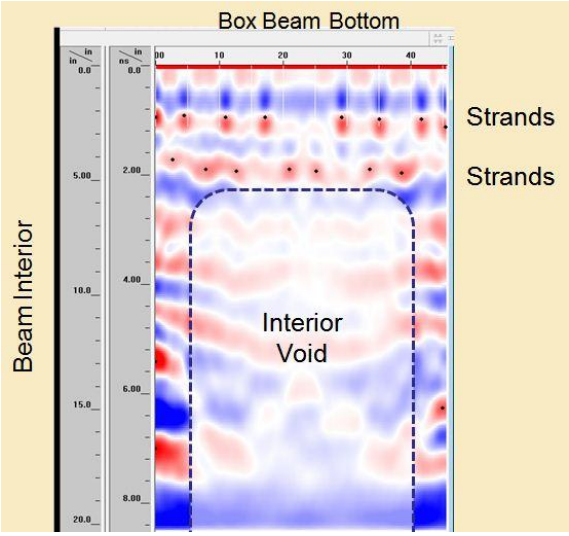
Quality Geophysics

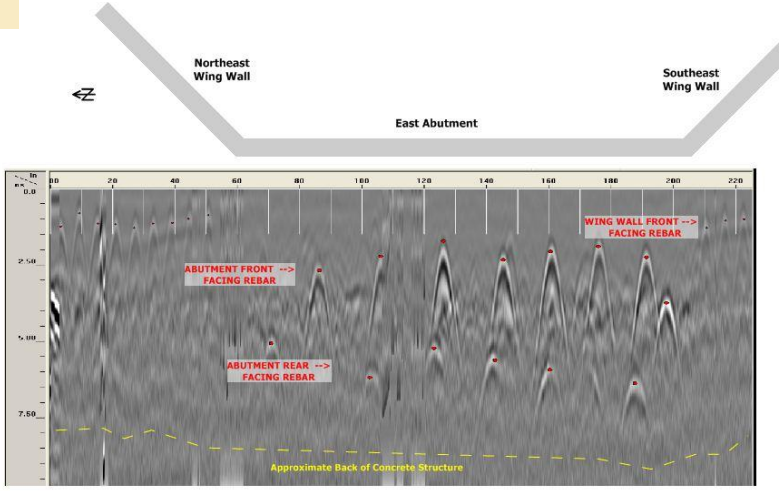
Geophysical Application

Structure Assessment



Evaluation of reinforced concrete structures can be a daunting task. This is more difficult because the size, spacing and location of reinforcement may be unknown, existing plans require verification, or the integrity is uncertain. Geophysical methods are being developed that permit insight into reinforcement within concrete structures.

Quality Geophysics innovation has lead to the use of ground penetrating radar (GPR) to complement traditional bridge inspections. GPR can be used to evaluate the interior of pre-stressed box beams to determine the number, spacing and cover of prestressing strands and stirrups. The high contrast between the prestressing strands or rebar and concrete properties makes this an ideal GPR target.



GPR may also be used to evaluate the bridge abutments. The identification of rebar patterns within the abutments provides necessary information required to assess the flexural capacity of the abutment.

On bridge decks with an asphalt overlay, evaluation of concrete and rebar condition is not possible by visual inspection. However, with the careful application of GPR methods, areas of rebar corrosion can be identified before the asphalt is removed. This can have significant impact on repair/replace decisions. Quality Geophysics personnel have successfully applied innovative GPR analyses to realize significant cost savings for their clients.