



N25
Bandon/Sarsfield
Interchange Upgrade



Young Engineers
Society Site Visit
20/08/2012



March 2012

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Introduction

Project overview

- Grade separation of Bandon Rd & Sarsfield Rd roundabouts
- Achieved by super-elevating the N25 over the two rotary interchanges
- Total length of scheme is 3.2 km approx.
- Will link Ballincollig Bypass with Kinsale Rd Interchange
- Total estimated project cost of €98m
- Completion planned for Summer 2013

Design & Build Contract



Client/Employer -
Cork City Council

ARUP

Employer's Representative -
ARUP



D & B Contractor –
SIAC Construction
(PSCS & PSDS)



Designer - RPS

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Introduction



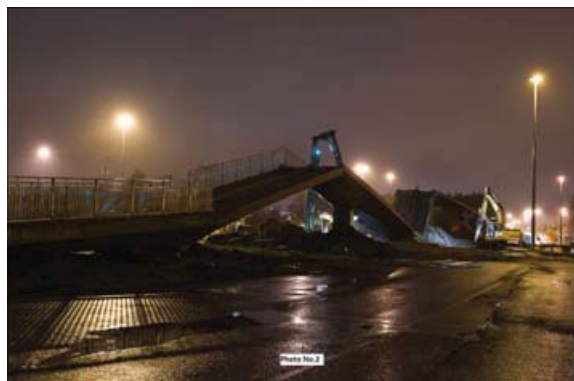
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Introduction

Challenges

- Traffic management – N25 is busiest road outside Dublin (ADDT = 110,000 approx.)
- Ground conditions – very poor
- Accomodating/diverting existing services
- Pedestrian bridge demolition



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Ground conditions:

- Very poor – soft clay and peat
- Ground progressively worse from Bandon Rd Roundabout to Sarsfield Rd Roundabout

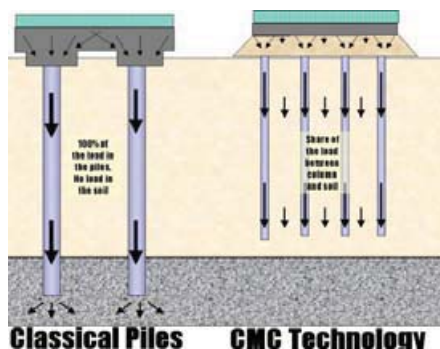
Solution:

- Excavate & replace (Bandon Rd Roundabout primarily)
- Controlled Modulus Columns (CMC's) elsewhere
- Buried pile slab and piled bridge at Sarsfields



Controlled Modulus Columns (CMC's)

- Soil improvement technique involving augered, unreinforced concrete columns
- 1st use in Ireland
- Offers enhanced stiffness – CMC's and surrounding soil act compositely to share imposed loading
- Load transfer platform (LTP) is laid on top to evenly distribute the loading





Geotechnical

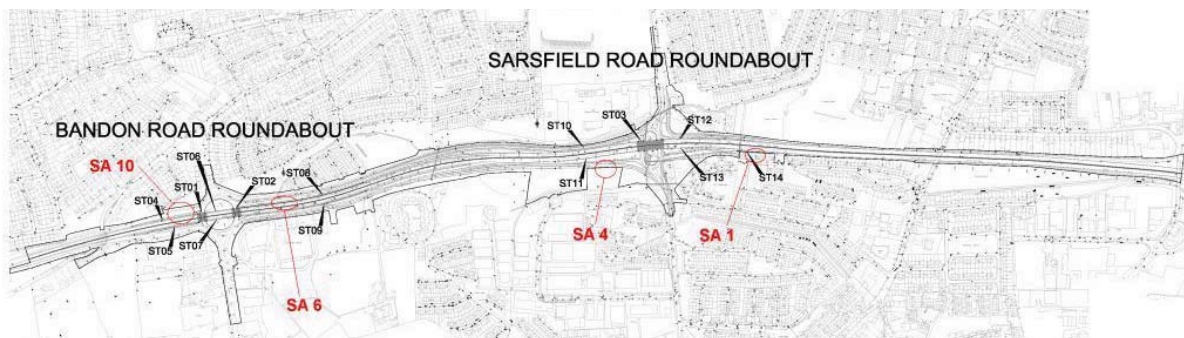
Controlled Modulus Columns (CMC's)



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Structures



Structures

- ST01, ST02, ST03: Integral prestressed concrete bridges
- ST04 – ST13: Reinforced earth structures
- ST14: Precast concrete retaining wall at Elmvale
- 7 No. cantilever sign gantries
- Buried piled slab at Sarsfields

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Structures

Reinforced earth



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Structures

Piled slab



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Structures

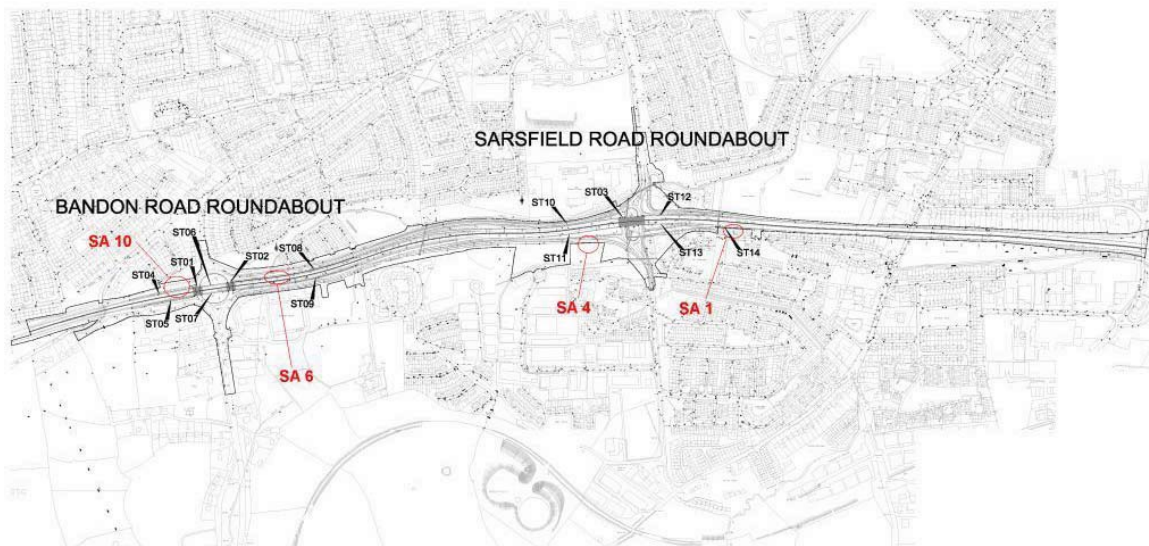
Piled slab



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Proposed route



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