Contact Information

Contract/Scheme name: A611 Rolls Royce Access Date: 26/09/16

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Recognise

The scheme is to create a new access, including a road bridge, for the existing Rolls Royce business park.

On site there was a surplus of class 1A fill material which had no further use. As such the site team approached the design team asking for approval to use the class 1A material as backfill to the bridge abutments in place of 6N material which was detailed in the specification.

Define

Quad of Aims	
Purpose	Stakeholder Benefits
• Improved efficiency • Cost savings – material is FOC to GT • Reduction in SHE related risks • Increased productivity • Reduction in environmental impact	• Nottinghamshire County Council • Earthworks Contractor • Galliford Try
Deliverables	Success Criteria
•Savings •Efficiency improvements •Programme savings •Safer working practices •Cost savings	• All expected deliverables and associated savings realised, including: • Cost (end product) • Time • Safety • Sustainability

Project Title: Class 1A structural backfill in lieu of 6N material

6N material would have been imported fill material

Class 1A material being placed and compacted

T •Transport – The material was on site. No need for numerous deliveries from the quarry. Only from stockpile to placement

I •Inventories – Zero wastage, unused material returned to the stockpile for future use

M •Movements – As material is on site no need for gate guards bringing deliveries in

W •Waiting – Material being on site means the delivery was managed at site level and not reliant on deliveries or traffic

O •Over Production – The qty required was brought to the work front. No over delivering or wastage

O •Over Processing – As the material had already been graded the quality of the material was proven. No tickets to process

D •Defects – As the material was already graded the risk of incorrect material being used or placed was removed

S • Skills – More efficient use of the machine drivers in that they were not waiting for deliveries and standing

Stakeholders:

GallifordTry

challenging beliefs, affecting behaviour EXCELLENCE IN SAFETY

Nottinghamshire County Council

J.C. BALLS & SONS

Control

Control measures implemented to promote the initiative were and are:-

- The use of class 1A material available on site was communicated to the client in terms of potential benefits
- The use of class 1A material available on site was communicated to the design team and potential benefits. The initiative was not implemented until the site team had formal approval from the design team
- The site team were made aware of the programme, safety and material cost savings for future schemes
- The commercial team were made aware of the initiative to ensure future tenders included took account of the material if and where available
- The earthworks contractor and testing contractor were engaged with fully throughout the process to maximize the quality and outputs of the process

Transfer

- Detail and summarise initiative and upload onto the knowledge bank internally
- The initiative will communicated to other project managers through the GT PM forum
- The improvement project will be disseminated to other stakeholders such as Highways England and key clients. The tender teams will also be made aware of the benefits for future work winning

Analysis

The material needed processing to guarantee conformity to class 1A spec'. But even with this process the saving on imported costs were substantial. The backfill was undertaken in two phases. Having seen the benefit in the first phase the site team were able to duplicate the process again for the second phase bringing more savings to the project.

As a result all drainage arising's (Which were again class 1A material) were added to the stockpile for future use.

Benefits – Four Key Enablers + Safety

Safety – Reduced wagon movements on site	Collaborative Relationships – Cost savings on the project (Open book contract)	Delivering Performance & Efficiency – Use of site won materials	Managing Risk & Uncertainty – Material graded to guarantee conformity	People & Company – Saving the project and company money
Yes	Yes	Yes	Yes	Yes

Measure

The site team undertook a measure to determine how much material was required to backfill the abutments. The design stated that 6N material was to be used at a cost of around £14 per tonne. At the same time a survey was undertaken of the class 1A material already on site and for GT use as part of the A611 scheme.

After the measure and survey the site team were confident that there was sufficient quantities on site to achieve the proposed task. This was then explained to the client. As the form of contract is a 'pain/gain' scenario the client was keen to explore the opportunity. Once the cost savings were demonstrated to them the design team confirmed that the material would acceptable for use as backfill to the bridge abutments.

Prior to implementation the site team determined that backfill in quantities greater than 2,000 tonne warranted use of the available on site material against imported materials base don potential savings.

Improve

Once the durability and quality of the product proposed for the backfill had been realized the site team looked at it's application elsewhere. As a result additional CBR tests were taken. The results were so high that the site team were able to reduce the amount of type 1 placed as part of the road construction. This again reduced wagon movements, waiting time and management time and brought more cost savings to the project.

As there is an abundance of the product available which is due to be used in the next phase of works, the outputs and benefits realized as a result of using the product have been used in the planning stage of the follow on scheme.

Overall the savings in time to the earthworks contractor, the efficiencies that GT saw and savings to the project made the use of the 1A material in place of 6N a major opportunity

Benefit Summary

The ensure the class 1A material adhere to the specification there is an amount of work to do prior to it's use as structural backfill. Plus the movement of the material needs careful planning. Normally the site team simply orders the 6N material and it is delivered to site. However with a robust plan in place the movement of the graded material is in the hands of the site team and is not traffic, 3rd party influenced. The external factors that may affect the delivery of any material is all but removed.

With the above in mind the speed, safety and efficiency of the process is maximised as far as reasonably practicable.

The savings are extensive. The assessment the site team carried out concluded that if 2,000t or greater is being placed it is cheaper to use site won materials. In this instance the savings generated were around the £30,000 mark. This saving included deductions for the process plant and plant and labour required to move the site won class 1A material from stockpile to placement site.