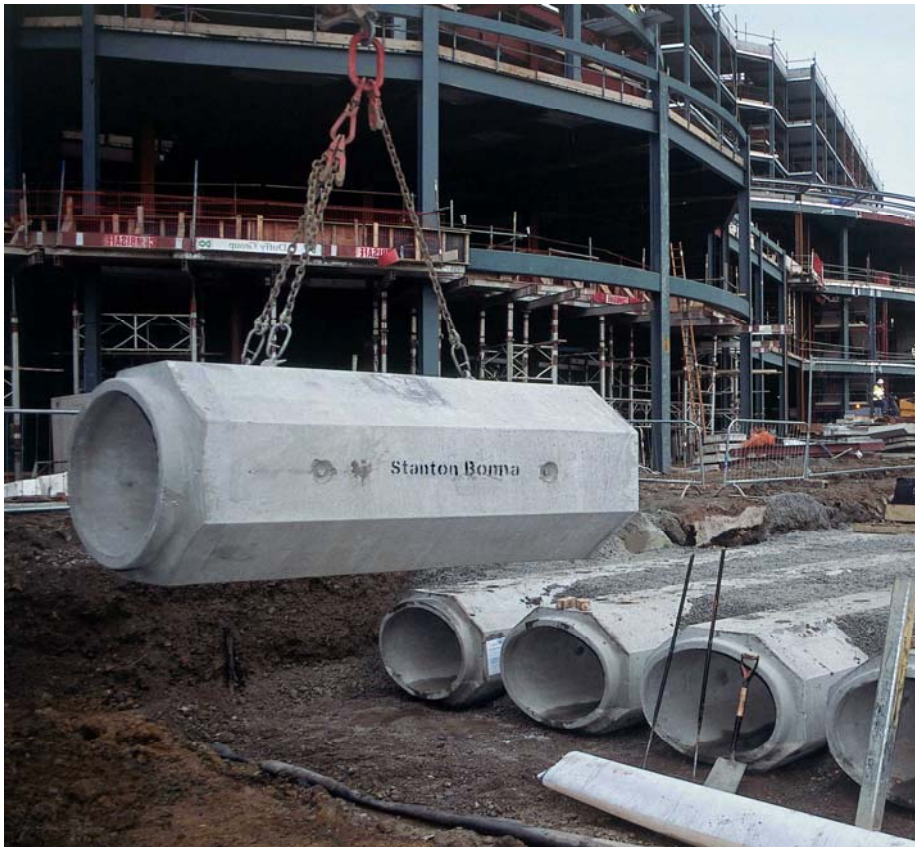


CASE STUDY - Twickenham Stadium Car Park

Elliptical Pipes provide SUDS solution at RFU's Twickenham Stadium



Project:

Implementation of a SUDS system to ensure rapid removal of surface water from Twickenham Stadium south stadium car park

Brief:

1. Collect and flow water from car park to ensure no accumulation of standing water
2. Ensure attenuation facility capable of stormwater floods
3. Shallow trenches needed so reinforced concrete product required to ensure product lifetime durability

Products Supplied:

Elliptical Pipes

Key Benefits:

High strength at shallow depths with efficient hydraulic flow

Consulting engineers for the RFU's major development turned to Stanton Bonna's unique elliptical pipes to provide a highly efficient drainage solution.

"... with trench excavation levels reduced and rapid jointing techniques employed, the pipes ensured a quick and easy installation"

David Walker, Project Manager
Duffy Construction

Elliptical pipes are ideal for this type of application where ground levels only permit minimal earth cover and where the pipes' inherent strength and improved flow rates mean they can be laid at shallow gradients thereby reducing trench excavation costs.

Stanton Bonna supplied some 750m of 1150mm x 750mm reinforced concrete elliptical pipes, installed side by side in a horizontal orientation in pipe runs up to 5m wide. With insitu concrete inter-connecting chambers they form an attenuation tank for storing surface water run-off prior to it being discharged into the public sewer system.

A high water table on the site and very shallow gradients for surface water run-off from the stadium meant that elliptical pipes were considered a more technical and economic alternative to other drainage systems such as box culverts.

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With the pipes' elliptical internal profile ensuring excellent hydraulic performance, they offer significant benefits over other systems and, supplied in 2.4m lengths, the pipes also require fewer joints than, for example, a box culvert alternative.

Stanton Bonna was awarded the contract shortly before installation commenced, meaning tight delivery schedules had to be met.

The contract also included smaller quantities of Stanton Bonna **Circular Concrete Pipes** and **Manholes**.

The £90M development included increasing Twickenham Stadium from 72,000 to 82,000 capacity, construction of a 156 bedroom four star hotel, a new conference centre and health spa and new RFU offices.

Installation of the Stanton Bonna pipes has been carried out by Duffy Construction whose project manager, David Walker commented: *“The high water table and shallow gradients on this construction site created specific surface water drainage challenges that were best solved by elliptical pipes. Stanton Bonna was able to respond rapidly to tight delivery schedules and with trench excavation levels reduced and rapid jointing techniques employed, the pipes ensured a quick and easy installation.”*

For further information on SBC Elliptical Pipes or any other attenuation needs please contact David Williams, Area Manager & Specialist Drainage Products, on 0115 944 1448.



The polygonal profile provides a structurally efficient drainage solution for shallow culverts under highways



Compaction of backfill is required only to prevent surface settlement. Special backfill materials are rarely required

StantonBonna

Stanton Bonna Concrete Limited • Littlewell Lane • Stanton-By-Dale • Ilkeston • Derbyshire • DE7 4QW

T 0115 944 1448 F 0115 944 1466 E info@stanton-bonna.co.uk W www.stanton-bonna.co.uk

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