

[REDACTED]

[REDACTED]

From: Mark Naumann [REDACTED]
Sent: 29 March 2018 14:27
To: Laura Gibbons; Stavros Drakopoulos
Cc: Jeremy Napthine | Edge BP; Paul Cann; Ryan Hofman; Anita Gardner
Subject: RE: 1-4 Holm Oaks F/15/16/PL - updated drawing and calculations

Laura,

Updated drawings and calcs as attached. I've tweaked the crate layout as they cant install some crate due to services. I've raised the crates to be 600MM below existing ground which I hope is shallow enough. The ground can be raised over the cates in landscaped areas. The crate in the road is a high load permavoid crate and only needs 260mm of cover (300 should be feasible on site)

I've responded individually to your points below.

Kind regards,

Mark Naumann BEng(Hons) CEng MICE | Principal Engineer

AMBIENTAL
ENVIRONMENTAL ASSESSMENT

Ambiental, Science Park Square, Brighton, BN1 9SB, UK

[REDACTED]

From: Laura Gibbons <Laura.Gibbons@arun.gov.uk>

Sent: 29 March 2018 12:21

To: Stavros Drakopoulos

Cc: Jeremy Napthine | Edge BP; Paul Cann <Paul.Cann@arun.gov.uk>; Mark Naumann

Ryan Hofman

Anita Gardner

<Anita.Gardner@arun.gov.uk>

Subject: RE: 1-4 Holm Oaks F/15/16/PL - updated drawing and calculations

Stavros,

My comments on the revised details:

- I note that the invert levels of all soakaways specified are below the ground water level. Please raise these and all accompanying pipe work as required.

Updated to an Invert to 6.100mAOD (600mm below ground level of 6.7mAOD)

- The area of MH9 on the plan is less than the area specified in your calculations. The volume required from calculations exceeds that specified on the drawings.

Update calcs attached (some bits the client cant install due to services so all crates have been amended a bit)

- Please provide further details of how sufficient protection is going to be provided over MH5 to meet manufacturers specification as this is under a trafficked area.

Permavoid crate specified for the car park area is super high load and only needs a minimum of 260mm cover for HGV loading.

- Why has fleece been specified on all of the soakaways?

its part of the standard charcon 'formpave' detail but may not be necessary so i've removed it.

- Please ensure all construction detail drawings are specific and relate directly to the plan, i.e. silt trap types seem to be inconsistent.

Updated

- As stated previously please ensure that the ring soakaway has the brickwork on top of the cover slab minimised to maximise the depth of perforated rings above ground water level.

I believe this has already been undertaken

- Please confirm that no part of the driveway is permeable.

Ad previously discussed the drive is permeable but the sub base is not suitable for storage due to the type of CBGM used. in terms of the calcs we have assumed its impermeable as a worst case scenario

- Protruding pipes need to be cut back to finish 50mm from the walls of manholes.

updated

- Details which have been constructed and are to no longer be used need to be removed or filled in with suitable material and ring soakaways/ manholes made good.

agreed

- The pipe from the rear of the properties needs to be protected by concrete.

its existing and below an existing CBGM sub base.

- No trees should be planted near to soakaways.

Agreed by client.

Regards,

Laura Gibbons

Engineer (Drainage & Coastal)



From:
Stavro
S

Drakopoulos [REDACTED]

Sent: 28 March 2018 16:26

To: Laura Gibbons

Cc: Jeremy Napthine | Edge BP; Paul Cann; Mark Naumann; Ryan Hofman

Subject: 1-4 Holm Oaks F/15/16/PL - updated drawing and calculations

Dear Laura

Please find attached the drainage layout, details and calculations amended to suit the comments below.

From: Laura Gibbons <Laura.Gibbons@arun.gov.uk>

Sent: 27 March 2018 15:05

To: Mark Naumann [REDACTED]

Cc: Paul Cann <Paul.Cann@arun.gov.uk>

Subject: RE: 1-4 Holm Oaks F/15/16/PL - updated drawing and calculations

- *The infiltration coefficient used in the calculations for both catchments is incorrect, the highest measured infiltration rate has been used. We require the lowest (i.e. $3.72 \times 10^{-5} \text{m/s}$) to be used for the calculations. Therefore, please re-do these.*
- *The drainage layout you have provided has insufficient detail. Please revise this to include:*
 - *The entire site, i.e. showing the back of the development;*
 - *Fall arrows on the carpark/drive area;*
 - *Finished levels*
 - *Levels of ALL pipes, crates, ring soakaways, and overflows;*
 - *Gradients and sizes of all pipes;*
 - *A silt trap is required upstream of the first soakaway, i.e. before the overflow from the rear soakaways enters the front soakaway.*
- *Construction detail drawings need to be provided of all tanks, silt traps, and soakaways.*

Let us know if you have any questions.

Kind regards,

Stavros

Stavros Drakopoulos, MEng (Hons) | Graduate Flood Risk and Drainage Consultant

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