[redacted]

[redacted]

Arun District Council, Civic Centre, Maltravers Rd, Littlehampton, West Sussex, BN17 5LF
www.arun.gov.uk

From: Laura Gibbons <Laura.Gibbons@arun.gov.uk>
Sent: 09 June 2021 14:33
To: Maria Tomalova <Maria.Tomalova@arun.gov.uk>
Cc: Paul Cann <Paul.Cann@arun.gov.uk>
Subject: RE: 2 Bungalows-Canal Mews-Barnham-Planning Consultation on: BN/44/21/DOC

Hi Maria,

I confirm that I still do not recommend discharge of conditions 9 and 10. There are several points which require resolving prior to us recommending discharge of these conditions. My full comments are shown below in *purple*.

Kind regards,

Laura Gibbons

Drainage Engineer

Engineering Services

Please note that I work Tuesdays 08:00-16:00 for Arun only.

T: 01903 221374

E: laura.gibbons@arun.gov.uk or [redacted]

From: Maria Tomalova <Maria.Tomalova@arun.gov.uk>
Sent: 28 May 2021 15:17
To: Laura Gibbons <Laura.Gibbons@arun.gov.uk>
Subject: FW: 2 Bungalows-Canal Mews-Barnham-Planning Consultation on: BN/44/21/DOC

Dear Laura,

Please find above the required information with regards to app BN/44/21/DOC.
I will re-consult you again.

Kind regards

Maria

Maria Tomalova
Senior Planning Officer
Directorate of Place

T: 01903 737510
E: maria.tomalova@arun.gov.uk

Arun District Council, Civic Centre, Maltravers Rd, Littlehampton, West Sussex, BN17 5LF
www.arun.gov.uk

From: Nicholas Lack [redacted]
Sent: 28 May 2021 14:41
To: Maria Tomalova <Maria.Tomalova@arun.gov.uk>
Subject: 2 Bungalows-Canal Mews-Barnham-Planning Consultation on: BN/44/21/DOC

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Ms Tomalova

Further to my e-mail 5 minutes ago, I omitted to include the Drainage Consultants comments in red below, therefore please find attached the revised drainage proposals and comments in response to Laura Gibbons comments of 27-05-21.

Please do not hesitate to contact me if you require any further information.

Kind regards
Nicholas Lack (Planning Agent)
Studio Lack Ltd

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

Sent: 27 May 2021 11:58
To: Planning.Responses <Planning.Responses@arun.gov.uk>
Cc: Maria Tomalova <Maria.Tomalova@arun.gov.uk>
Subject: RE: 2 Bungalows-Canal Mews-Barnham-Planning Consultation on: BN/44/21/DOC

Hi Maria,

Thank you for sending this further information over. We have the following comments.

Key
ADC comments 14/05/21
Arch Associates Comments 18/05/21
ADC response 27/05/21

Condition 9- surface water drainage design

1. *Please label pipes with diameters and falls.* This has now been added. *Okay, thank you.*
2. *Please consider providing a manhole on the main drainage run and linking the drainage from plots 1 and 2 at this point, rather than connections to the pipeline.* This has now been added *Okay, thank you.*
3. *When connections are being made to pipelines rather than direct to manholes- add note "all connections to be made using oblique 45 degree junctions".* This note has now been added to cover the remaining pipe to pipe connections *Okay, thank you.*
4. *Please detail invert levels of incoming and outgoing pipes to crates.* This has now been added *Okay, thank you.*
5. *Please include hyrdrobrake unit reference on layout and construction detail drawings* This has now been added *Okay, thank you.*
6. *Please detail invert level at proposed connection to culverted watercourse.* This has now been added *Okay, thank you.*
7. *The permeable paving does not meet half drain time requirements, please add overflows to wider network.* An outfall into the wider network has now been added using a diffuser unit. The calculations have been updated to eliminate any infiltration to ensure that the flows can escape through the outflow without flooding the paving. The attenuation tank design does not rely on any of the storage within the permeable subbase and the tank as been designed assuming a direct run-off from the paving, which in extreme events may well be the case. *Please can you provide a construction detail of the diffuser units in the permeable paving. Please also label finish and formation levels of permeable paving. Please make S4 and S5 catchpits to ensure that silt will not get into the diffusers from the wider system.* We have now labelled the paving finish levels and formation is already noted. S4 and S5 are now catchpits and we have also added a detail for the diffusers in the subbase on drawing 552 -P3. *The detail drawing may cause some confusion for plot 2, please provide an adjusted detail with relevant levels for plot 2.*
8. *The infiltration rate found on site is very low (x10^-7m/s) yet it appears from calculations that the outlet is proposed ¾ of the way up the tank. In reality it is highly likely in the winter that when consecutive storms occur that the tank will be full to outlet level and will have insufficient capacity. Please lower outgoing invert level. Infiltration cannot be relied upon in design, we are happy for the system to be left unlined to allow some infiltration when conditions permit, but please discount infiltration from design.* We have now reverted the design back to our original strategy of using no infiltration. The tank design has been checked with no infiltration and the outlet has been moved to the base accordingly. We have maintained the permeable geotextile wrapping so that whatever infiltration capacity is available can be utilised. *The invert on the outgoing pipe from the crate is slightly above the base level, there will be insufficient storage in the crates as a result. Please review. The base of the crate has been lowered below peak ground water level, please raise or line the crate.* The tank was lowered to accommodate the addition of the outflow from the furthest subbase diffuser unit. We would prefer to keep the flow going into the top of the tank to avoid an air vent being required and so we have now shown the tank lined to avoid groundwater affecting the performance. The 40mm between the base of the tank and the pipe is to allow for the connection detail of some units, which have a 40mm plastic obstruction at the base. To accommodate the loss of volume, we have now increased the size of the tank from 4m to 4.5m wide. Max water level in the anaiysis is now 346mm and so we hope this is acceptable. *It appears that*

ARUN DISTRICT COUNCIL BN/44/21/DOC

the discharge rate from the system is shown to be 2.8l/s not 2l/s. As a result of changes the hydrobrake needs to be reassessed to ensure the design head is not exceeded in the 1 in 100 year plus climate change event. Please supply floatation calculations that demonstrate the tank has adequate resisting forces.

9. *Invert levels are inconsistent between calculations and design. Please amend to ensure consistency.* This has now been amended. *Okay.*

Condition 10- discharge of flows to watercourse

1. *Please can the applicant confirm the invert level at the proposed point of connection.* This has now been clarified on the GA drawing. *Okay.*
2. *Please can the applicant submit their land drainage consent, or as a minimum evidence that they have applied for land drainage consent.* The application will be made to Paul Cann on 19.05.21 once I have been able to collect the relevant information from the applicant (Seaward Properties). *We will await the design corrections as requested above as these may have a knock on impact. There are numerous issues outstanding on this as detailed by my colleague Paul Cann.*

Kind regards,

Laura Gibbons
Drainage Engineer
Engineering Services
Please note that I work Tuesdays 08:00-16:00 for Arun only.

T: 01903 221374
E: laura.gibbons@arun.gov.uk or [redacted]
Arun District Council, Civic Centre, Maltravers Rd, Littlehampton, West Sussex, BN17 5L

From: Nicholas Lack [redacted]
Sent: 28 May 2021 14:31
To: Maria Tomalova <Maria.Tomalova@arun.gov.uk>
Subject: 2 Bungalows-Canal Mews-Barnham-Planning Consultation on: BN/44/21/DOC

Dear Ms Tomalova

Please find attached the revised drainage proposals in response to Laura Gibbons comments of 27-05-21.

Please do not hesitate to contact me if you require any further information.

Kind regards
Nicholas Lack (Planning Agent)
Studio Lack Ltd

From: Maria Tomalova <Maria.Tomalova@arun.gov.uk>
Sent: 27 May 2021 12:14
To: Nicholas Lack [redacted]
Subject: FW: 2 Bungalows-Canal Mews-Barnham-Planning Consultation on: BN/44/21/DOC

Dear Mr Lack,

Please see below Drainage Engineers comments.
Please bear also in mind that you have had already chance to react on comments of Drainage Engineers.

The deadline of the above application is on 09/06/21. If we do not have recommendation of DE for discharge conditions
due to this date your application will be refuse.

Kind regards

Maria

Maria Tomalova
Senior Planning Officer
Directorate of Place

T: 01903 737510
E: maria.tomalova@arun.gov.uk

Arun District Council, Civic Centre, Maltravers Rd, Littlehampton, West Sussex, BN17 5LF
www.arun.gov.uk

From: Laura Gibbons <Laura.Gibbons@arun.gov.uk>
Sent: 27 May 2021 11:58
To: Planning.Responses <Planning.Responses@arun.gov.uk>
Cc: Maria Tomalova <Maria.Tomalova@arun.gov.uk>
Subject: RE: 2 Bungalows-Canal Mews-Barnham-Planning Consultation on: BN/44/21/DOC

Hi Maria,

Thank you for sending this further information over. We have the following comments.

Key
ADC comments 14/05/21
Arch Associates Comments 18/05/21
ADC response 27/05/21

Condition 9- surface water drainage design

1. *Please label pipes with diameters and falls.* This has now been added. *Okay, thank you.*
2. *Please consider providing a manhole on the main drainage run and linking the drainage from plots 1 and 2 at this point, rather than connections to the pipeline.* This has now been added *Okay, thank you.*
3. *When connections are being made to pipelines rather than direct to manholes- add note "all connections to be made using oblique 45 degree junctions".* This note has now been added to cover the remaining pipe to pipe connections *Okay, thank you.*
4. *Please detail invert levels of incoming and outgoing pipes to crates.* This has now been added *Okay, thank you.*
5. *Please include hyrdrobrake unit reference on layout and construction detail drawings* This has now been added *Okay, thank you.*
6. *Please detail invert level at proposed connection to culverted watercourse.* This has now been added *Okay, thank you.*

7. *The permeable paving does not meet half drain time requirements, please add overflows to wider network.* An outfall into the wider network has now been added using a diffuser unit. The calculations have been updated to eliminate any infiltration to ensure that the flows can escape through the outflow without flooding the paving. The attenuation tank design does not rely on any of the storage within the permeable subbase and the tank as been designed assuming a direct run-off from the paving, which in extreme events may well be the case. *Please can you provide a construction detail of the diffuser units in the permeable paving. Please also label finish and formation levels of permeable paving. Please make S4 and S5 catchpits to ensure that silt will not get into the diffusers from the wider system.* We have now labelled the paving finish levels and formation is already noted. S4 and S5 are now catchpits and we have also added a detail for the diffusers in the subbase on drawing 552 -P3.

8. *The infiltration rate found on site is very low (x10^-7m/s) yet it appears from calculations that the outlet is proposed ¾ of the way up the tank. In reality it is highly likely in the winter that when consecutive storms occur that the tank will be full to outlet level and will have insufficient capacity. Please lower outgoing invert level. Infiltration cannot be relied upon in design, we are happy for the system to be left unlined to allow some infiltration when conditions permit, but please discount infiltration from design.* We have now reverted the design back to our original strategy of using no infiltration. The tank design has been checked with no infiltration and the outlet has been moved to the base accordingly. We have maintained the permeable geotextile wrapping so that whatever infiltration capacity is available can be utilised. *The invert on the outgoing pipe from the crate is slightly above the base level, there will be insufficient storage in the crates as a result. Please review. The base of the crate has been lowered below peak ground water level, please raise or line the crate.* The tank was lowered to accommodate the addition of the outflow from the furthest subbase diffuser unit. We would prefer to keep the flow going into the top of the tank to avoid an air vent being required and so we have now shown the tank lined to avoid groundwater affecting the performance. The 40mm between the base of the tank and the pipe is to allow for the connection detail of some units, which have a 40mm plastic obstruction at the base. To accommodate the loss of volume, we have now increased the size of the tank from 4m to 4.5m wide. Max water level in the analysis is now 346mm and so we hope this is acceptable.

9. *Invert levels are inconsistent between calculations and design. Please amend to ensure consistency.* This has now been amended. *Okay.*

Condition 10- discharge of flows to watercourse

1. *Please can the applicant confirm the invert level at the proposed point of connection.* This has now been clarified on the GA drawing. *Okay.*

2. *Please can the applicant submit their land drainage consent, or as a minimum evidence that they have applied for land drainage consent.* The application will be made to Paul Cann on 19.05.21 once I have been able to collect the relevant information from the applicant (Seaward Properties). *We will await the design corrections as requested above as these may have a knock on impact.*

Kind regards,

Laura Gibbons
Drainage Engineer
Engineering Services
Please note that I work Tuesdays 08:00-16:00 for Arun only.

T: 01903 221374

E: laura.gibbons@arun.gov.uk or [redacted]
Arun District Council, Civic Centre, Maltravers Rd, Littlehampton, West Sussex, BN17 5LF

From: Maria Tomalova <Maria.Tomalova@arun.gov.uk>
Sent: 18 May 2021 21:30
To: Planning.Responses <Planning.Responses@arun.gov.uk>
Cc: Laura Gibbons <Laura.Gibbons@arun.gov.uk>
Subject: FW: 2 Bungalows-Canal Mews-Barnham-Planning Consultation on: BN/44/21/DOC

Please upload the below and attached to the above application; Further information.

Thank you

Maria Tomalova
Senior Planning Officer
Directorate of Place

T: 01903 737510
E: maria.tomalova@arun.gov.uk

Arun District Council, Civic Centre, Maltravers Rd, Littlehampton, West Sussex, BN17 5LF
www.arun.gov.uk

From: Nicholas Lack [redacted]
Sent: 18 May 2021 20:51
To: Maria Tomalova <Maria.Tomalova@arun.gov.uk>
Subject: 2 Bungalows-Canal Mews-Barnham-Planning Consultation on: BN/44/21/DOC

Dear Ms Tomalova

In response to your e-mail of 11 May 2021, attached (6 documents) and below are the revised drainage proposals/comments prepared by the applicant's Drainage Consultant in response to the comments made by Laura Gibbons.

Please do not hesitate to contact me if you require anything further.

Kind regards
Nicholas Lack (Planning agent)
Studio Lack Ltd

From: Chris Hendry [redacted]
Sent: 18 May 2021 18:59

Please find attached the updated Drainage Statement. The TEC groundwater monitoring report does not seem to be in a format I can bind into my report and so I have attached it separately. I have also added comments below to hopefully assist the review process.

Condition 9- surface water drainage design

1. *Please label pipes with diameters and falls.* This has now been added
2. *Please consider providing a manhole on the main drainage run and linking the drainage from plots 1 and 2 at this point, rather than connections to the pipeline.* This has now been added
3. *When connections are being made to pipelines rather than direct to manholes- add note "all connections to be made using oblique 45 degree junctions".* This note has now been added to cover the remaining pipe to pipe connections
4. *Please detail invert levels of incoming and outgoing pipes to crates.* This has now been added
5. *Please include hyrdrobrake unit reference on layout and construction detail drawings* This has now been added
6. *Please detail invert level at proposed connection to culverted watercourse.* This has now been added
7. *The permeable paving does not meet half drain time requirements, please add overflows to wider network.* An outfall into the wider network has now been added using a diffuser unit. The calculations have been updated to eliminate any infiltration to ensure that the flows can escape through the outflow without flooding the paving. The attenuation tank design does not rely on any of the storage within the permeable subbase and the tank as been designed assuming a direct run-off from the paving, which in extreme events may well be the case.
8. *The infiltration rate found on site is very low (x10^-7m/s) yet it appears from calculations that the outlet is proposed ¾ of the way up the tank. In reality it is highly likely in the winter that when consecutive storms occur that the tank will be full to outlet level and will have insufficient capacity. Please lower outgoing invert level. Infiltration cannot be relied upon in design, we are happy for the system to be left unlined to allow some infiltration when conditions permit, but please discount infiltration from design.* We have now reverted the design back to our original strategy of using no infiltration. The tank design has been checked with no infiltration and the outlet has been moved to the base accordingly. We have maintained the permeable geotextile wrapping so that whatever infiltration capacity is available can be utilised.
9. *Invert levels are inconsistent between calculations and design. Please amend to ensure consistency.* This has now been amended

Condition 10- discharge of flows to watercourse

1. *Please can the applicant confirm the invert level at the proposed point of connection.* This has now been clarified on the GA drawing
2. *Please can the applicant submit their land drainage consent, or as a minimum evidence that they have applied for land drainage consent.* The application will be made to Paul Cann on 19.05.21 once I have been able to collect the relevant information from the applicant (Seaward Properties).

Kind regards,

Chris

ARCH ASSOCIATES
CONSULTING CIVIL AND STRUCTURAL ENGINEERS

Chris Hendry MSc CEng MIStructE
Director
[redacted]
w: www.archassociates.co.uk

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From: Maria Tomalova <Maria.Tomalova@arun.gov.uk>
Sent: 11 May 2021 15:47
To: Nicholas Lack [redacted]
Subject: FW: Planning Consultation on: BN/44/21/DOC

Dear Mr Lack,

Please see below the comments of Drainage Engineers on your application.

Kind regards

Maria

Maria Tomalova
Senior Planning Officer
Directorate of Place

T: 01903 737510
E: maria.tomalova@arun.gov.uk

Arun District Council, Civic Centre, Maltravers Rd, Littlehampton, West Sussex, BN17 5LF
www.arun.gov.uk

From: Laura Gibbons <Laura.Gibbons@arun.gov.uk>
Sent: 11 May 2021 15:31
To: Planning.Responses <Planning.Responses@arun.gov.uk>
Cc: Maria Tomalova <Maria.Tomalova@arun.gov.uk>
Subject: RE: Planning Consultation on: BN/44/21/DOC

Dear Maria,

Thank you for consulting us on this discharge of conditions application, we have the following comments.

Condition 9- surface water drainage design

1. Please label pipes with diameters and falls.

2. Please consider providing a manhole on the main drainage run and linking the drainage from plots 1 and 2 at this point, rather than connections to the pipeline.
3. When connections are being made to pipelines rather than direct to manholes- add note "all connections to be made using oblique 45 degree junctions".
4. Please detail invert levels of incoming and outgoing pipes to crates.
5. Please include hyrdrobrake unit reference on layout and construction detail drawings
6. Please detail invert level at proposed connection to culverted watercourse.
7. The permeable paving does not meet half drain time requirements, please add overflows to wider network.
8. The infiltration rate found on site is very low (x10^-7m/s) yet it appears from calculations that the outlet is proposed ¾ of the way up the tank. In reality it is highly likely in the winter that when consecutive storms occur that the tank will be full to outlet level and will have insufficient capacity. Please lower outgoing invert level. Infiltration cannot be relied upon in design, we are happy for the system to be left unlined to allow some infiltration when conditions permit, but please discount infiltration from design.
9. Invert levels are inconsistent between calculations and design. Please amend to ensure consistency.

Condition 10- discharge of flows to watercourse

1. Please can the applicant confirm the invert level at the proposed point of connection.
2. Please can the applicant submit their land drainage consent, or as a minimum evidence that they have applied for land drainage consent.

Please re-consult us once further information has been provided.

Kind regards,

Laura Gibbons

Drainage Engineer

Engineering Services

Please note that I work Tuesdays 08:00-16:00 for Arun only.

T: 01903 221374

E: laura.gibbons@arun.gov.uk or [redacted]

Arun District Council, Civic Centre, Maltravers Rd, Littlehampton, West Sussex, BN17 5LF

From: Planning.Responses <Planning.Responses@arun.gov.uk>
Sent: 19 April 2021 11:58
To: Land Drainage <Land.Drainage@arun.gov.uk>
Subject: Planning Consultation on: BN/44/21/DOC

To: **Engineers (Drainage)**

NOTIFICATION FROM ARUN DISTRICT COUNCIL

TOWN AND COUNTRY PLANNING ACT 1990

Application No:	**BN/44/21/DOC**
Registered:	14th April 2021
Site Address:	Land off Canal Mews Canal Mews Barnham PO22 0DP
Description of Works:	Approval of details reserved by condition imposed under ref BN/66/19/PL relating to Condition Nos 9 - surface water drainage, 10 - discharge flows to watercourses, or for the culverting, diversion, infilling or obstruction of any watercourse on or adjacent to site and 11 - foul water sewerage disposal.

The Council have received the above application to discharge conditions. I shall be pleased to receive any observations you may wish to make in respect of those conditions relating to your field of expertise.

Click here to view the Discharge of Condition application

Click here to view conditions on original application - click on decision tab

Should you wish to make any comments click on the link www.arun.gov.uk/planning and click into ?Enter Comment? or if this is not possible email your response to planning.responses@arun.gov.uk by **4th May 2021.**

Please be aware that any comments you may make will be available on our website so please do not insert personal details or signatures on your reply.

In the absence of a reply within the period stated, I shall assume that you have no observations to make.

Yours sincerely

Maria Tomalova

Planning Case Officer- Arun District Council

Telephone: 01903 737510

Email: maria.tomalova@arun.gov.uk

PLCONDOC (ODB) 2020

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