

# Lower Thames Crossing

## 2.16 Drainage Plans

### Volume B (sheets 1 to 20)

APFP Regulation 5(2)(o)

Infrastructure Planning (Applications:  
Prescribed Forms and Procedure)  
Regulations 2009

Volume 2

**DATE: October 2022**

Planning Inspectorate Scheme Ref: TR010032  
Application Document Ref: TR010032/APP/2.16

**VERSION: 1.0**

**(THIS PAGE IS INTENTIONALLY LEFT BLANK)**

---

# Lower Thames Crossing

## List of contents

	<b>Page number</b>
<b>1 Introduction .....</b>	<b>1</b>
<b>2 Schedule of Plans included in this application document .....</b>	<b>3</b>

# 1 Introduction

- 1.1.1 This document is submitted to the Planning Inspectorate on behalf of the Secretary of State in relation to an application made by National Highways (the Applicant) under section 37 of the Planning Act 2008.
- 1.1.2 The application is for the grant of development consent for the A122 Lower Thames Crossing. Should development consent be granted, the draft A122 (Lower Thames Crossing) Development Consent Order (Application Document 3.1) (the draft Order) will be made by the Secretary of State (subject to any modifications considered appropriate).
- 1.1.3 This document comprises part of the suite of application documentation and is included in the application to comply with Regulations 5(2)(o) and Regulation 5(4) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009, which require:
- 5(2)(o) ‘any other plans, drawings and sections necessary to describe the proposals for which development consent is sought, showing details of design, external appearance, and the preferred layout of buildings or structures, drainage, surface water management, means of vehicular and pedestrian access, any car parking to be provided, and means of landscaping.*
- 5(4) Where a plan comprises three or more separate sheets a key plan must be provided showing the relationship between the different sheets.’*
- 1.1.4 The purpose of the Drainage Plans is to show the key features of the drainage design of the Project for which development consent is sought. Each sheet shows the relevant drainage design within the area shown. The highways design is shown in the background on the Drainage Plans for illustrative purposes and specifically to provide context and aid understanding of the works.
- 1.1.5 This plan set numbers all the proposed wetland and infiltration basins shown in the design. The works numbers provided are shown in the Works Plans (Application Document 2.6) and defined in Schedule 1 of the draft Order (Application Document 3.1).
- 1.1.6 Each sheet shows the relevant drainage design and works numbers applicable within the area shown. Reference should be made to the next relevant sheet for details of works numbers beyond the cut lines. Other information on the Drainage Plans is shown beyond the cut lines for completeness and context.
- 1.1.7 To ensure sufficient detail and clarity of information, the Drainage Plans (sheets 1 to 49) have been prepared at a scale of 1:2500. The key plan uses a smaller scale than that prescribed in Regulation 5(3) of the 2009 Regulations so that the Project can be represented on a single sheet plan.
- 1.1.8 The Applicant has adopted the same consistent approach for Drainage Plans as has been used for the following:
- a. Land Plans (Application Document 2.2)
  - b. Crown Land Plans (Application Document 2.3)

- c. Special Category Land Plans (Application Document 2.4)
  - d. General Arrangement Plans (Application Document 2.5)
  - e. Works Plans (Application Document 2.6)
  - f. Rights of Way and Access Plans (Application Document 2.7)
  - g. Streets Subject to Temporary Restrictions of Use Plans (Application Document 2.8)
  - h. Traffic Regulation Measures Plans (Application Document 2.10)
  - i. Temporary Works Plans (Application Document 2.17)
  - j. Hedgerow and Tree Preservations Order Plans (Application Document 2.18)
- 1.1.9 The information contained on each sheet of the Drainage Plans corresponds with the geographical information shown on each sheet of the aforementioned sets. This is intended to help interested parties understand the inter-relationship between the different sets of plans and to help illustrate the design of the Project more clearly.
- 1.1.10 This approach means that there are some sheets that cover an area of the Project where there is no drainage design. On these sheets, the Applicant has introduced a label stating: 'No design information on this sheet'.
- 1.1.11 The Drainage Plans show the Order Limits and the relevant local authority boundaries. In this plan set, 'the Order Limits' mean the limits of lands to be acquired or used, permanently or temporarily, within which the authorised development may be carried out, as set out in Article 2 of the draft Order (Application Document 3.1).
- 1.1.12 This plan set uses a different legend on all sheets: it shows a consistent base key (presented across the plan set) followed by a sheet-specific key for catchment areas and outfalls. This means that there may be some items shown in the key that are not on a given sheet.
- 1.1.13 As this document has been informed by and is part of the application documentation it should be read alongside the other application documents. In particular, the plans should be read alongside Schedule 1 of the draft Order (Application Document 3.1).
- 1.1.14 To ensure that the file size of this document does not exceed the 50MB limit prescribed by the Planning Inspectorate, the set has been split into three volumes: volume A contains the key plan, volume B the initial sheets 1 to 20 and volume C contains the following sheets, 21 to 49.

## 2 Schedule of Plans included in this application document

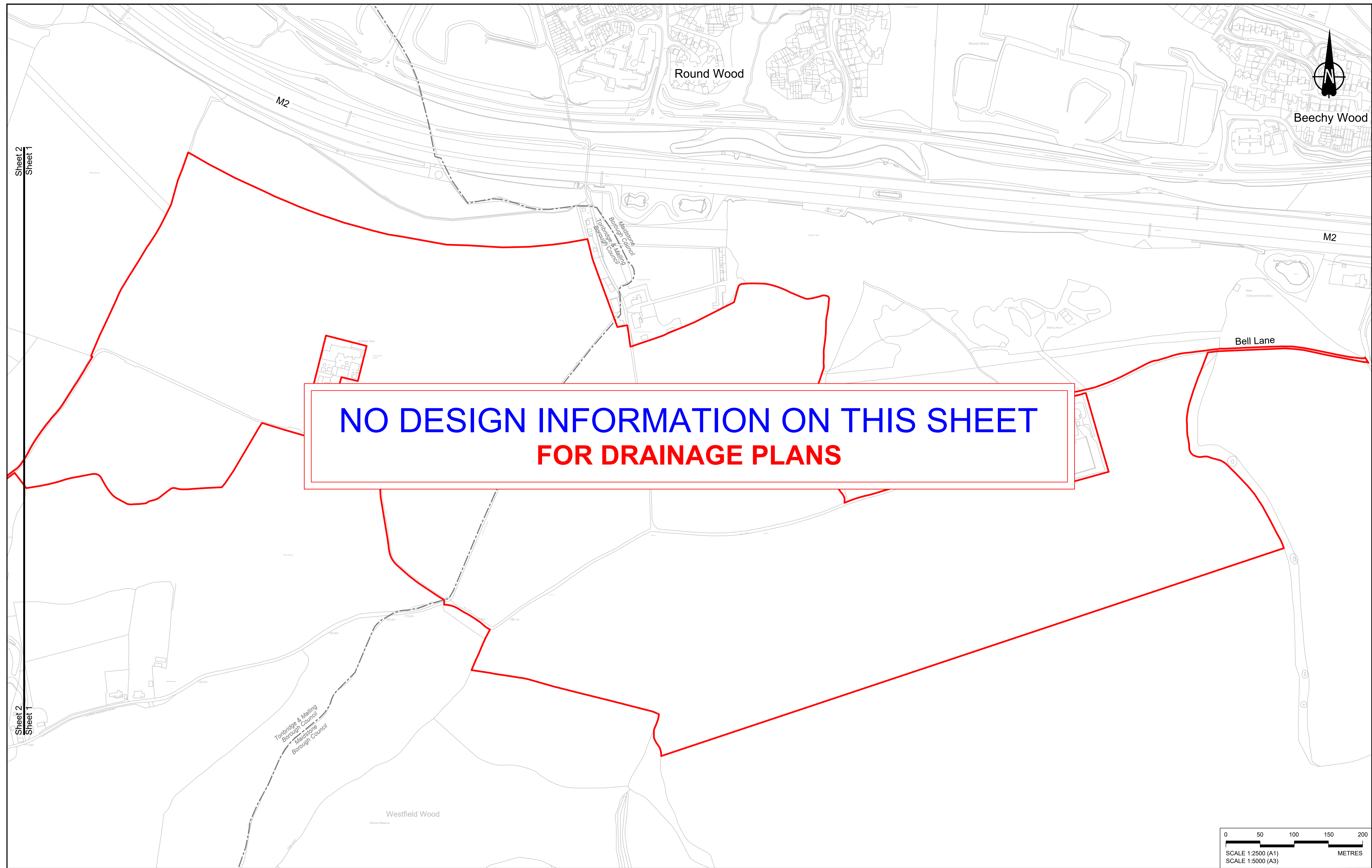
Document Title	Document Number	Revision
DRAINAGE PLANS REGULATION 5(2)(o) KEY PLAN	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 1	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 2	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 3	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 4	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 5	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 6	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 7	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 8	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 9	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 10	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 11	TR010032/APP/2.16	P01

Document Title	Document Number	Revision
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 12	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 13	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 14	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 15	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 16	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 17	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 18	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 19	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 20	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 21	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 22	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 23	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 24	TR010032/APP/2.16	P01

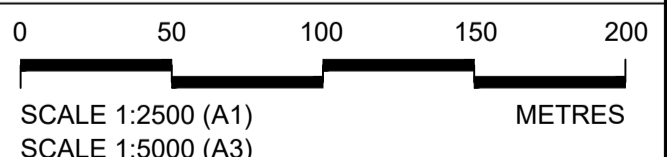
Document Title	Document Number	Revision
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 25	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 26	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 27	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 28	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 29	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 30	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 31	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 32	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 33	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 34	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 35	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 36	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 37	TR010032/APP/2.16	P01



<b>Document Title</b>	<b>Document Number</b>	<b>Revision</b>
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 38	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 39	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 40	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 41	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 42	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 43	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 44	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 45	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 46	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 47	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULATION 5(2)(o) SHEET 48	TR010032/APP/2.16	P01
DRAINAGE PLANS REGULAION 5(2)(o) SHEET 49	TR010032/APP/2.16	P01



**NO DESIGN INFORMATION ON THIS SHEET  
FOR DRAINAGE PLANS**



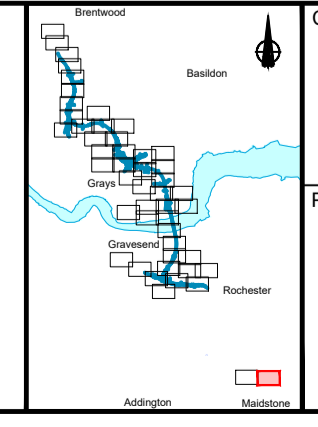
Contains Ordnance Survey data. © Crown copyright and database rights 2022. Ordnance Survey 100039649						
P01	SB	19/10/2022	DCO Application	LY	BB	ASB
Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd

**NOTES:**

- The proposed works shown are illustrative only and will be subject to change as part of detailed design development. Any changes will be limited to being within the constraints included in the Development Consent Order (application document reference TR010032/APP/3.1).
- These plans should be read in conjunction with Schedule 1 (Authorise Development) of the Development Consent Order (application document reference TR010032/APP/3.1).
- Where proposed catchment areas boundaries overlap with each other or the Order Limits they are shown adjacent to each other or the Order Limit to provide greater visual clarity but these could extend to the boundary of other catchment areas or the Order Limits as well.

**LEGEND:**

<b>BOUNDARIES</b>	<b>PROPOSED DRAINAGE</b>	
Order Limits	Watercourse diversion	Ditch
Local Authority boundary	Infiltration basin, attenuation pond, infiltration pond	Culvert or pipe
Existing watercourse	Swale	P.S. Pumping station
		Containment for contaminated water from tunnel low point sump

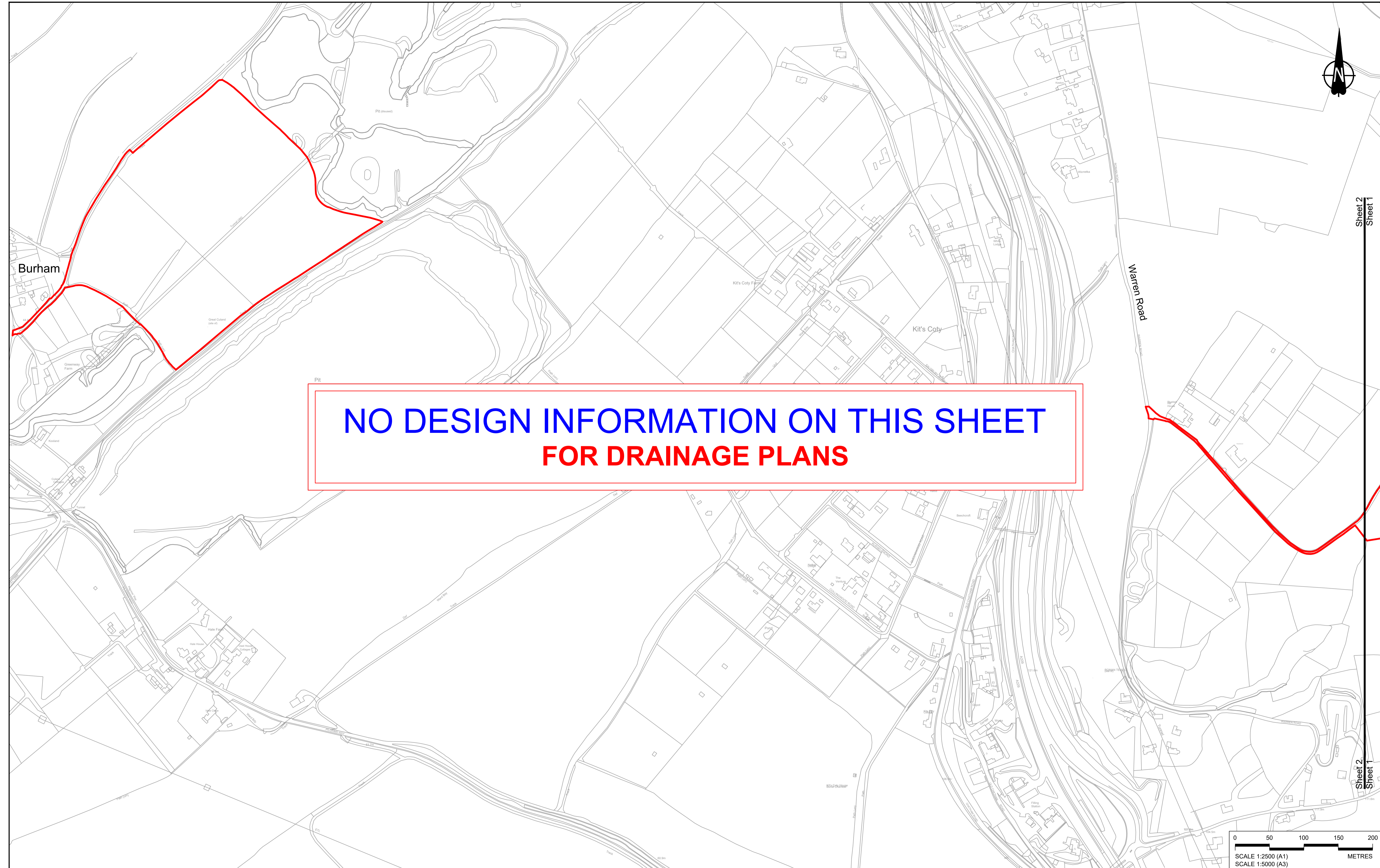


**national highways**

Client

Project **LOWER THAMES CROSSING**

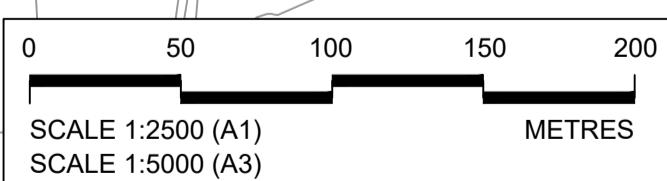
Status	DCO Application	Original Size	Revision
Application Document Number	TR010032/APP/2.16	A1	P01
Drawing title	<b>DRAINAGE PLANS REGULATION 5(2)(o) SHEET 1</b>		
Drawing Number	HE540039-CJV-BOP-SZZ_DN100000_-DR-CD-10048		



**NO DESIGN INFORMATION ON THIS SHEET  
FOR DRAINAGE PLANS**

Sheet 2  
Sheet 1

Sheet 2  
Sheet 1



Contains Ordnance Survey data. © Crown copyright and database rights 2022. Ordnance Survey 100030649

Rev	Status	Rev. Date	Purpose of revision	Drawn	Chk'd	Apprv'd
P01	S8	19/10/2022	DCO Application	LY	BB	ASB

**NOTES:**

- The proposed works shown are illustrative only and will be subject to change as part of detailed design development. Any changes will be limited to being within the constraints included in the Development Consent Order (application document reference TR010032/APP/3.1).
- These plans should be read in conjunction with Schedule 1 (Authorise Development) of the Development Consent Order (application document reference TR010032/APP/3.1).
- Where proposed catchment areas boundaries overlap with each other or the Order Limits they are shown adjacent to each other or the Order Limit to provide greater visual clarity but these could extend to the boundary of other catchment areas or the Order Limits as well.

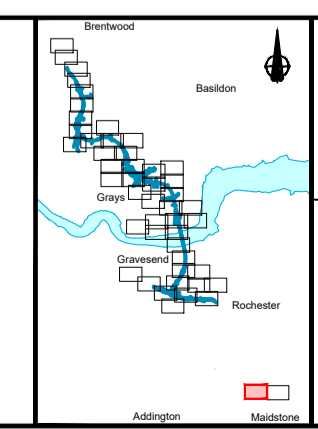
**LEGEND:**

**BOUNDARIES**

- Order Limits
- Local Authority boundary
- Existing watercourse

**PROPOSED DRAINAGE**

- Watercourse diversion
- Infiltration basin, attenuation pond, infiltration pond
- Swale
- Ditch
- Culvert or pipe
- P.S. Pumping station
- Containment for contaminated water from tunnel low point sump



Client: **national highways**

Project: **LOWER THAMES CROSSING**

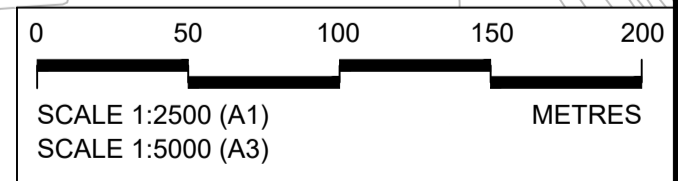
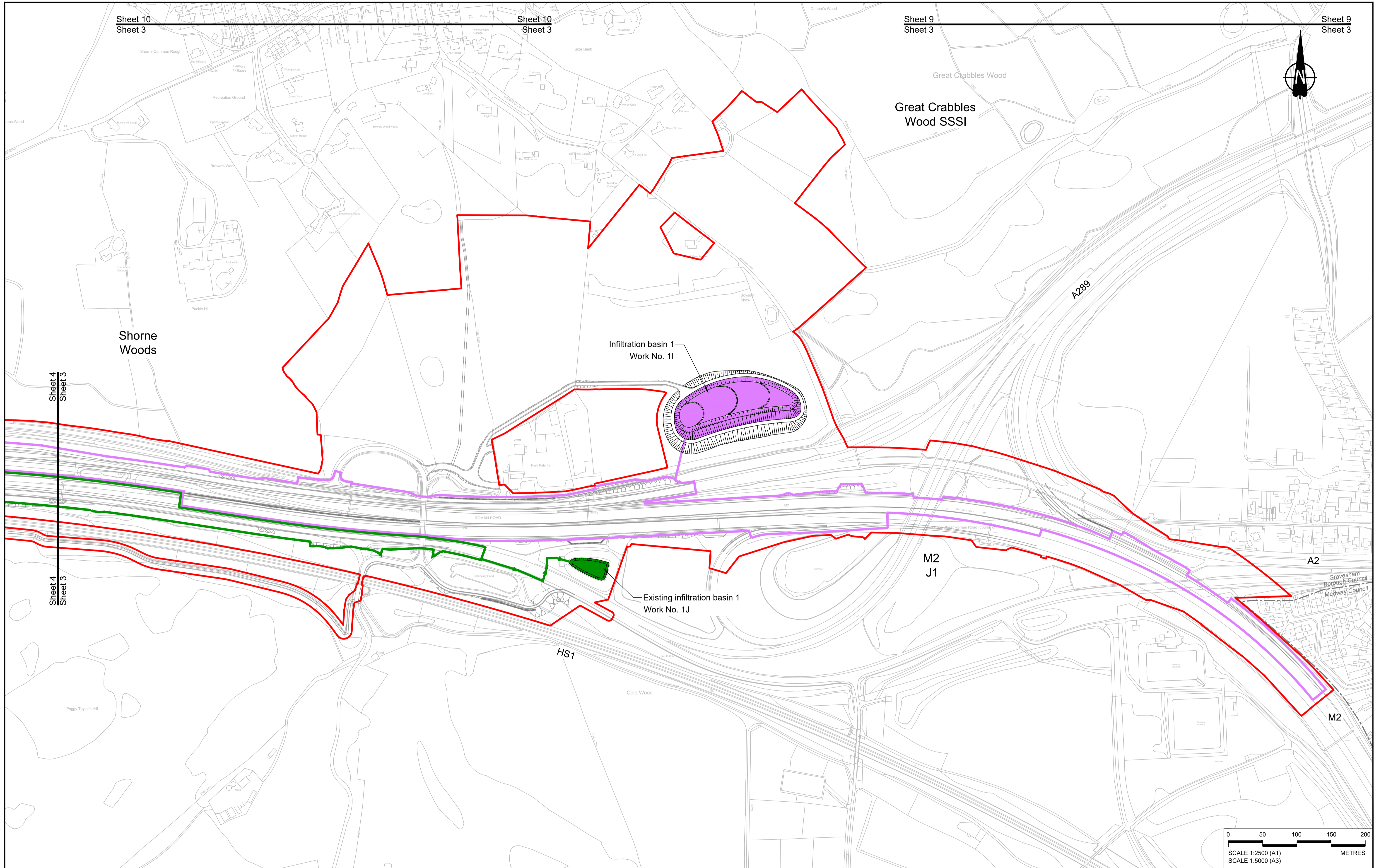
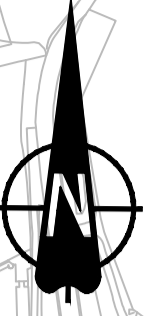
Status	DCO Application	Original Size	A1	Revision	P01
Application Document Number	TR010032/APP/2.16	Scale	1:2500		
Drawing title	<b>DRAINAGE PLANS REGULATION 5(2)(o) SHEET 2</b>				
Drawing Number	HE540039-CJV-BOP-SZZ_DN100000_-DR-CD-10049				

Sheet 10  
Sheet 3

Sheet 10  
Sheet 3

Sheet 9  
Sheet 3

Sheet 9  
Sheet 3



Contains Ordnance Survey data. © Crown copyright and database rights 2022. Ordnance Survey 100030649					
P01	S8	19/10/2022	DCO Application	LY	BB ASB
Rev	Status	Rev. Date	Purpose of revision	Drawn	Check'd
				Apprv'd	

**NOTES:**

- The proposed works shown are illustrative only and will be subject to change as part of detailed design development. Any changes will be limited to being within the constraints included in the Development Consent Order (application document reference TR010032/APP/3.1).
- These plans should be read in conjunction with Schedule 1 (Authorise Development) of the Development Consent Order (application document reference TR010032/APP/3.1).
- Where proposed catchment areas boundaries overlap with each other or the Order Limits they are shown adjacent to each other or the Order Limit to provide greater visual clarity but these could extend to the boundary of other catchment areas or the Order Limits as well.

**LEGEND:**

**BOUNDARIES**

- Order Limits
- Local Authority boundary
- Existing watercourse

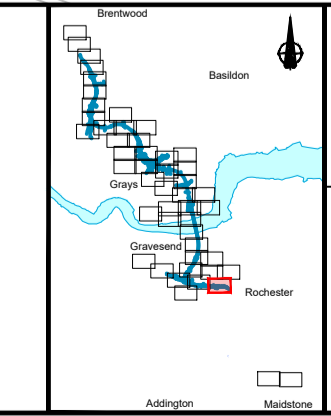
**PROPOSED DRAINAGE**

- Watercourse diversion
- Infiltration basin, attenuation pond, infiltration pond
- Swale

- Ditch
- Culvert or pipe
- P.S. Pumping station
- Containment for contaminated water from tunnel low point sump

**CATCHMENT AREAS AND OUTFALLS**

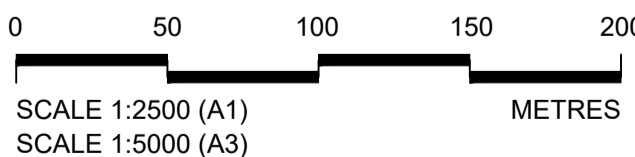
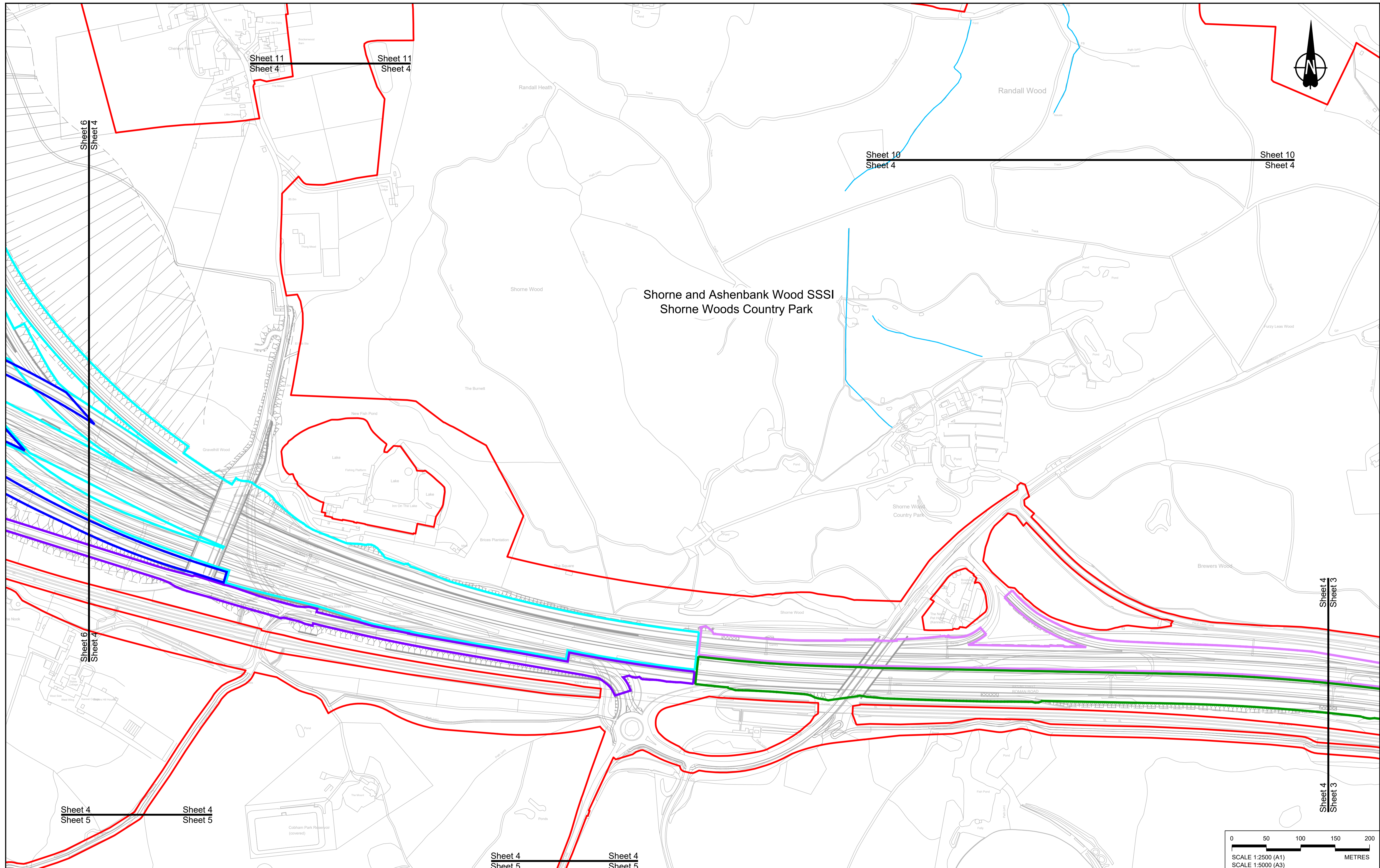
- Catchment for Work No. 1I
- Outfall to Work No. 1I
- Catchment for Work No. 1J
- Outfall to Work No. 1J



Client  
**national highways**

Project  
**LOWER THAMES CROSSING**

Status	DCO Application	Original Size	A1	Revision	P01
Application Document Number	TR010032/APP/2.16	Scale	1:2500		
Drawing title	<b>DRAINAGE PLANS REGULATION 5(2)(o) SHEET 3</b>				
Drawing Number	HE540039-CJV-BOP-SZZ_DN100000_-DR-CD-10001				



Contains Ordnance Survey data. © Crown copyright and database rights 2022. Ordnance Survey 100039649

P01	SB	19/10/2022	DCO Application	LY	BB	ASB
Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd

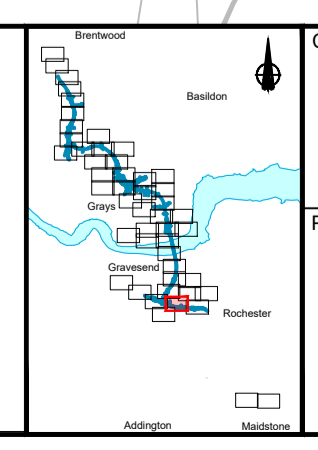
**NOTES:**

1. The proposed works shown are illustrative only and will be subject to change as part of detailed design development. Any changes will be limited to being within the constraints included in the Development Consent Order (application document reference TR010032/APP/3.1).
2. These plans should be read in conjunction with Schedule 1 (Authorise Development) of the Development Consent Order (application document reference TR010032/APP/3.1)
3. Where proposed catchment areas boundaries overlap with each other or the Order Limits they are shown adjacent to each other or the Order Limit to provide greater visual clarity but these could extend to the boundary of other catchment areas or the Order Limits as well.

**LEGEND:**

BOUNDARIES		PROPOSED DRAINAGE		CATCHMENT AREAS AND OUTFALLS	
	Order Limits		Watercourse diversion		Catchment for Work No. 1J
	Local Authority boundary		Infiltration basin, attenuation pond, infiltration pond		Catchment for Work No. 2J
	Existing watercourse		Swale		Catchment for Work No. 2K
					Catchment for Work No. 3D

	Ditch		Catchment for Work No. 1J
	Culvert or pipe		Catchment for Work No. 2J
	Pumping station		Catchment for Work No. 2K
	Containment for contaminated water from tunnel low point sump		Catchment for Work No. 3D



Client: **national highways**

Project: **LOWER THAMES CROSSING**

Status	DCO Application	Original Size	A1	Revision	P01
Application Document Number	TR010032/APP/2.16	Scale	1:2500		
Drawing title	<b>DRAINAGE PLANS REGULATION 5(2)(o) SHEET 4</b>				
Drawing Number	HE540039-CJV-BOP-SZZ_DN100000_-DR-CD-10002				

Sheet 6  
Sheet 5

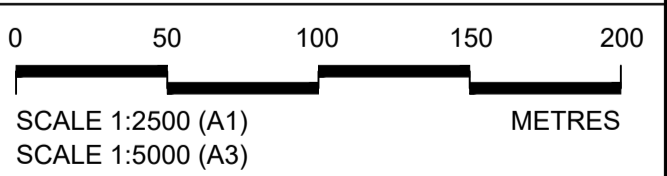
Sheet 6  
Sheet 5

Sheet 4  
Sheet 5

Sheet 4  
Sheet 5

Sheet 4  
Sheet 5

**NO DESIGN INFORMATION ON THIS SHEET  
FOR DRAINAGE PLANS**



Contains Ordnance Survey data. © Crown copyright and database rights 2022. Ordnance Survey 100035649

P01	SB	19/10/2022	DCO Application	LY	BB	ASB
Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd

**NOTES:**

- The proposed works shown are illustrative only and will be subject to change as part of detailed design development. Any changes will be limited to being within the constraints included in the Development Consent Order (application document reference TR010032/APP/3.1).
- These plans should be read in conjunction with Schedule 1 (Authorise Development) of the Development Consent Order (application document reference TR010032/APP/3.1)
- Where proposed catchment areas boundaries overlap with each other or the Order Limits they are shown adjacent to each other or the Order Limit to provide greater visual clarity but these could extend to the boundary of other catchment areas or the Order Limits as well.

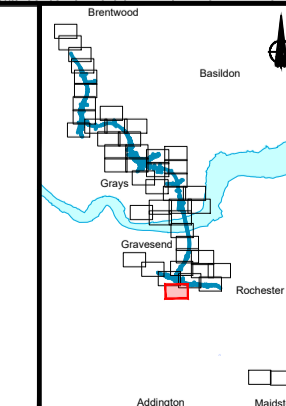
**LEGEND:**

**BOUNDARIES**

- Order Limits
- Local Authority boundary
- Existing watercourse

**PROPOSED DRAINAGE**

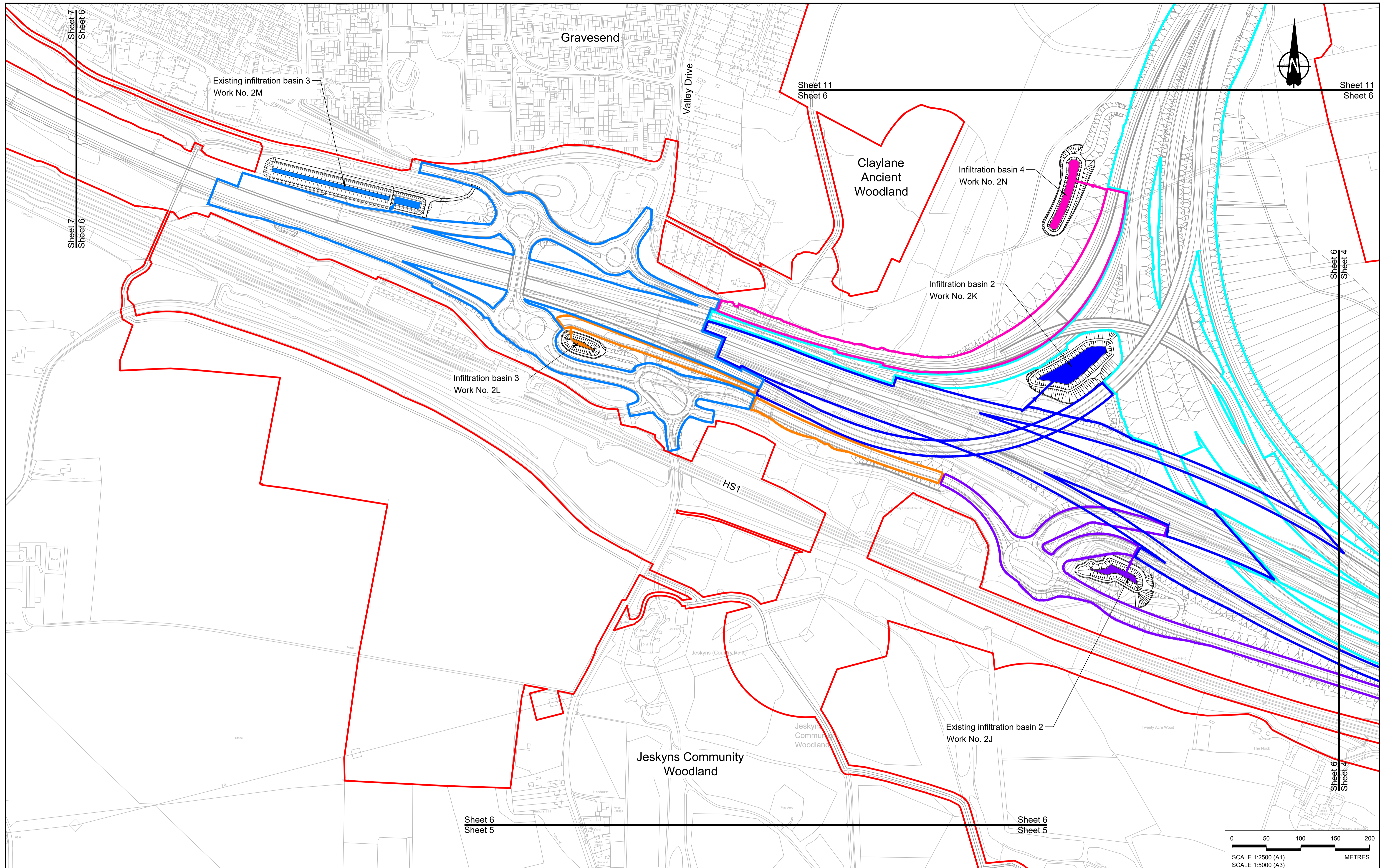
- Watercourse diversion
- Infiltration basin, attenuation pond, infiltration pond
- Swale
- Ditch
- Culvert or pipe
- P.S. Pumping station
- Containment for contaminated water from tunnel low point sump



Client:

Project: **LOWER THAMES CROSSING**

Status	DCO Application	Original Size	Revision
Application Document Number	TR010032/APP/2.16	A1	P01
Drawing title	<b>DRAINAGE PLANS REGULATION 5(2)(o) SHEET 5</b>		
Drawing Number	HE540039-CJV-BOP-SZZ_DN100000 -DR-CD-10003		



Contains Ordnance Survey data. © Crown copyright and database rights 2022. Ordnance Survey 100035649

P01	SB	19/10/2022	DCO Application	LY	BB	ASB
Rev	Status	Rev. Date	Purpose of revision	Drawn	Chk'd	Apprv'd

**NOTES:**

- The proposed works shown are illustrative only and will be subject to change as part of detailed design development. Any changes will be limited to being within the constraints included in the Development Consent Order (application document reference TR010032/APP/3.1).
- These plans should be read in conjunction with Schedule 1 (Authorise Development) of the Development Consent Order (application document reference TR010032/APP/3.1).
- Where proposed catchment areas boundaries overlap with each other or the Order Limits they are shown adjacent to each other or the Order Limit to provide greater visual clarity but these could extend to the boundary of other catchment areas or the Order Limits as well.

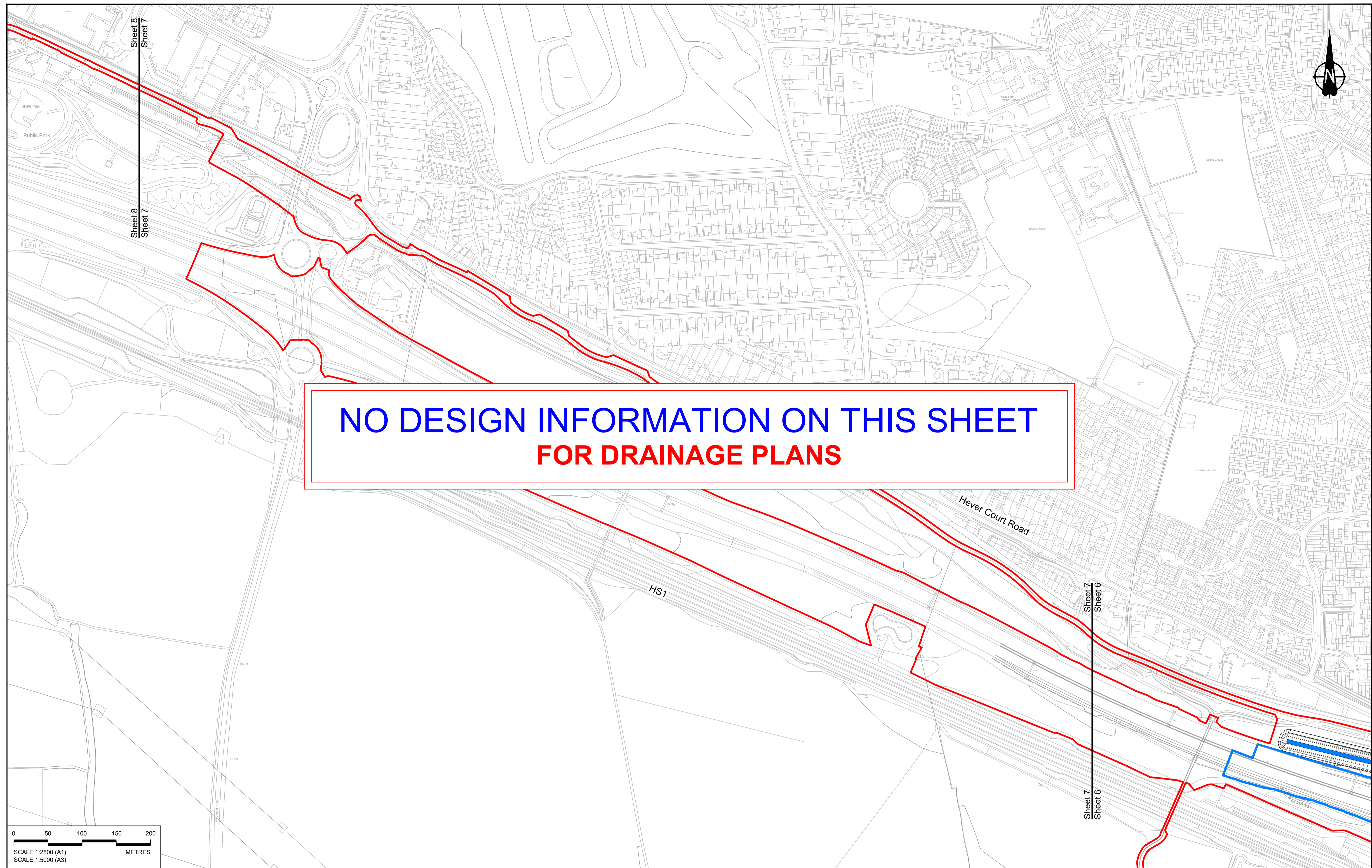
**LEGEND:**

BOUNDARIES		PROPOSED DRAINAGE		CATCHMENT AREAS AND OUTFALLS	
	Order Limits		Watercourse diversion		Catchment for Work No. 2M
	Local Authority boundary		Infiltration basin, attenuation pond, infiltration pond		Catchment for Work No. 2J
	Existing watercourse		Swale		Catchment for Work No. 2L
			Ditch		Catchment for Work No. 2K
			Culvert or pipe		Outfall to Work No. 2M
			P.S. Pumping station		Outfall to Work No. 2J
			Containment for contaminated water from tunnel low point sump		Outfall to Work No. 2N
					Catchment for Work No. 2N
					Outfall to Work No. 2L
					Catchment for Work No. 3D

Client:

Project: **LOWER THAMES CROSSING**

Status	DCO Application	Original Size	Revision
Application Document Number	TR010032/APP/2.16	A1	P01
Drawing title	<b>DRAINAGE PLANS REGULATION 5(2)(o) SHEET 6</b>		
Drawing Number	HE540039-CJV-BOP-SZZ_DN100000 -DR-CD-10004		
		Scale	1:2500



**NO DESIGN INFORMATION ON THIS SHEET  
FOR DRAINAGE PLANS**

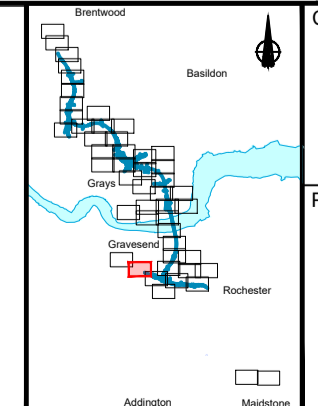


Contains Ordnance Survey data. © Crown copyright and database rights 2022. Ordnance Survey 100039649						
P01	SB	19/10/2022	DCO Application	LY	BB	ASB
Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd

**NOTES:**

- The proposed works shown are illustrative only and will be subject to change as part of detailed design development. Any changes will be limited to being within the constraints included in the Development Consent Order (application document reference TR010032/APP/3.1).
- These plans should be read in conjunction with Schedule 1 (Authorise Development) of the Development Consent Order (application document reference TR010032/APP/3.1).
- Where proposed catchment areas boundaries overlap with each other or the Order Limits they are shown adjacent to each other or the Order Limit to provide greater visual clarity but these could extend to the boundary of other catchment areas or the Order Limits as well.

<b>BOUNDARIES</b>		<b>PROPOSED DRAINAGE</b>	
	Order Limits		Watercourse diversion
	Local Authority boundary		Infiltration basin, attenuation pond, infiltration pond
	Existing watercourse		Ditch
			Culvert or pipe
			Pumping station
			Containment for contaminated water from tunnel low point sump
			Swale



**national highways**

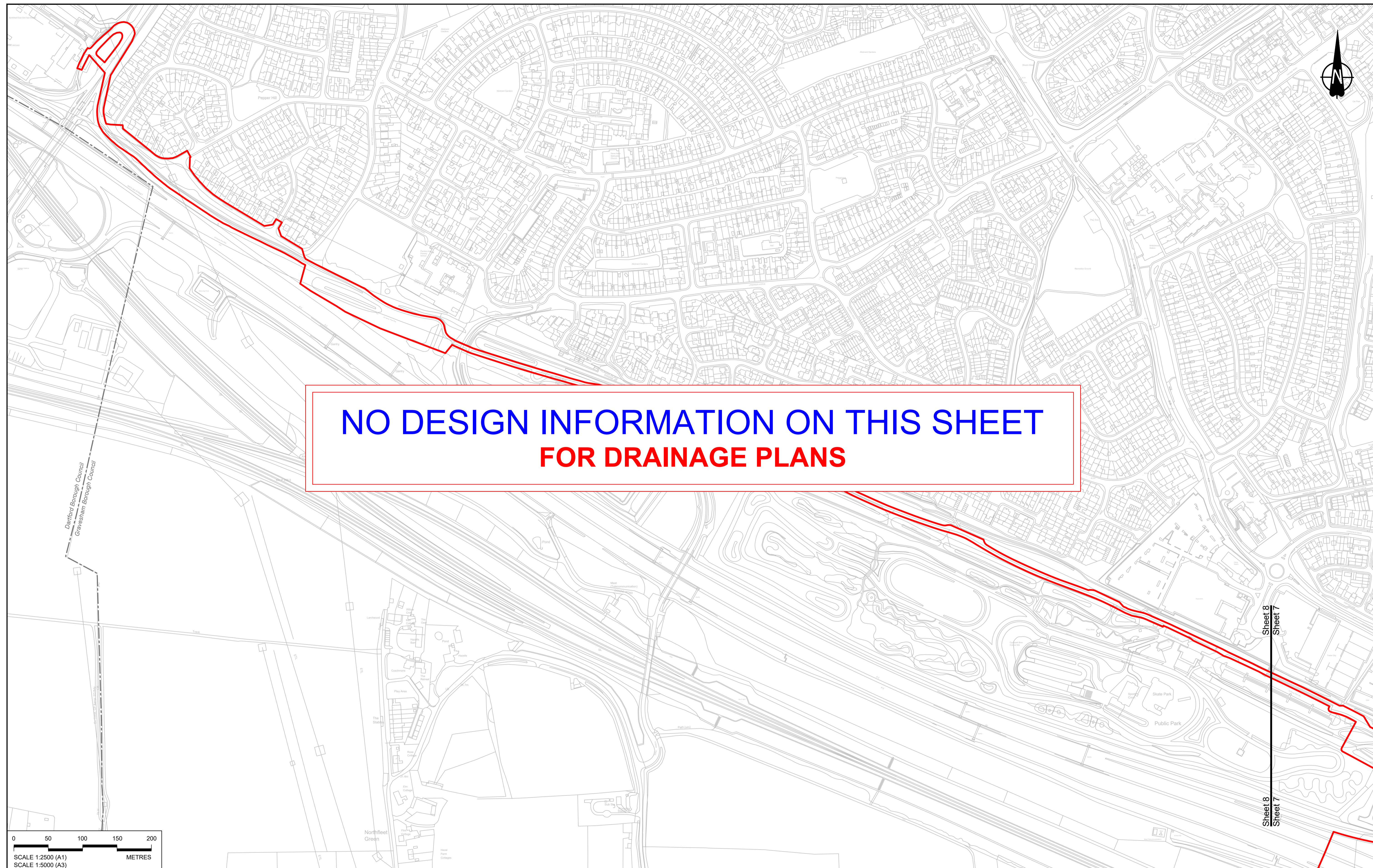
Client

Project

**LOWER THAMES CROSSING**

Status	DCO Application	Original Size	Revision
Application Document Number	TR010032/APP/2.16	A1	P01
Drawing title	DRAINAGE PLANS REGULATION 5(2)(o) SHEET 7		
Drawing Number	HE540039-CJV-BOP-SZZ_DN100000_-DR-CD-10005		
		Scale	1:2500



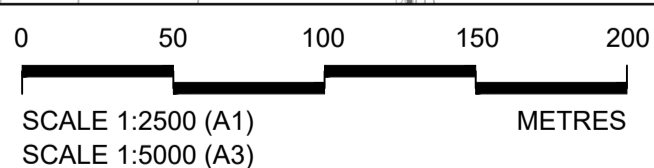


**NO DESIGN INFORMATION ON THIS SHEET  
FOR DRAINAGE PLANS**



Darford Borough Council  
Gravelham Borough Council

Sheet 8  
Sheet 7

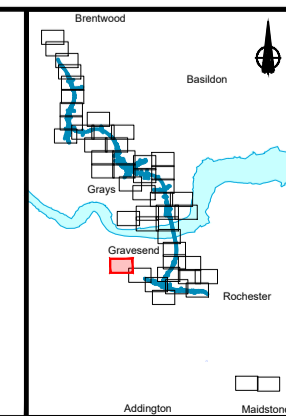


Contains Ordnance Survey data. © Crown copyright and database rights 2022. Ordnance Survey 100039649						
P01	SB	19/10/2022	DCO Application	LY	BB	ASB
Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd

**NOTES:**

- The proposed works shown are illustrative only and will be subject to change as part of detailed design development. Any changes will be limited to being within the constraints included in the Development Consent Order (application document reference TR010032/APP/3.1).
- These plans should be read in conjunction with Schedule 1 (Authorise Development) of the Development Consent Order (application document reference TR010032/APP/3.1).
- Where proposed catchment areas boundaries overlap with each other or the Order Limits they are shown adjacent to each other or the Order Limit to provide greater visual clarity but these could extend to the boundary of other catchment areas or the Order Limits as well.

<b>LEGEND:</b>		
<b>BOUNDARIES</b>		
	Order Limits	
	Local Authority boundary	
	Existing watercourse	
<b>PROPOSED DRAINAGE</b>		
	Watercourse diversion	
	Infiltration basin, attenuation pond, infiltration pond	
	Swale	
	Ditch	
	Culvert or pipe	
	P.s.	Pumping station
	Containment for contaminated water from tunnel low point sump	

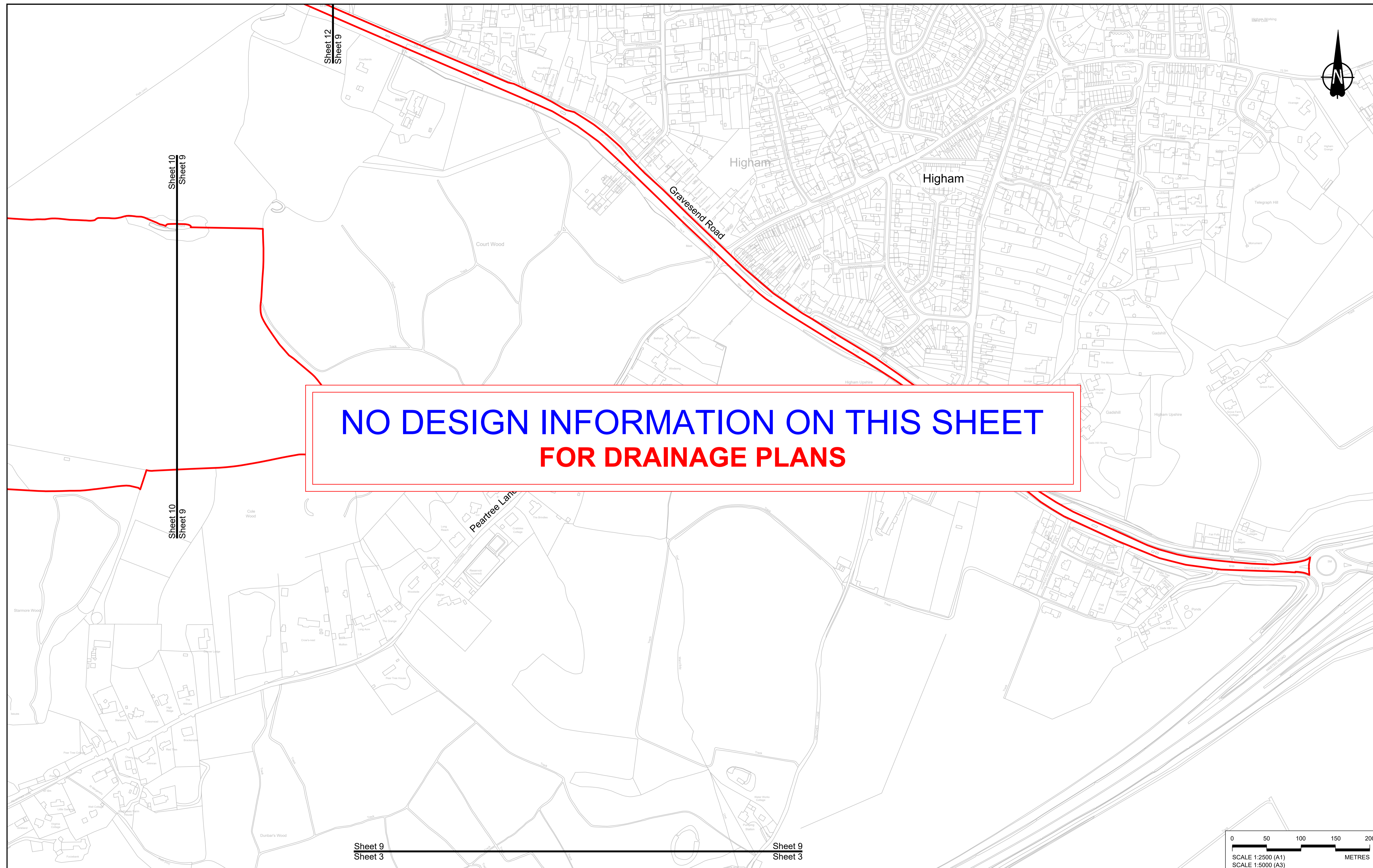


**national highways**

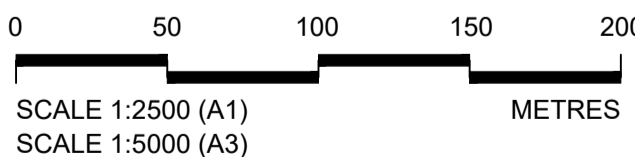
Client

Project: **LOWER THAMES CROSSING**

Status	DCO Application	Original Size	Revision
Application Document Number	TR010032/APP/2.16	A1	P01
Drawing title	<b>DRAINAGE PLANS REGULATION 5(2)(o) SHEET 8</b>		
Drawing Number	HE540039-CJV-BOP-SZZ_DN100000_-DR-CD-10006		
		Scale	1:2500



**NO DESIGN INFORMATION ON THIS SHEET  
FOR DRAINAGE PLANS**



P01	SB	19/10/2022	DCO Application	LY	BB	ASB
Rev	Status	Rev. Date	Purpose of revision	Drawn	Check'd	Apprv'd

**NOTES:**  
 1. The proposed works shown are illustrative only and will be subject to change as part of detailed design development. Any changes will be limited to being within the constraints included in the Development Consent Order (application document reference TR010032/APP/3.1).  
 2. These plans should be read in conjunction with Schedule 1 (Authorise Development) of the Development Consent Order (application document reference TR010032/APP/3.1).  
 3. Where proposed catchment areas boundaries overlap with each other or the Order Limits they are shown adjacent to each other or the Order Limit to provide greater visual clarity but these could extend to the boundary of other catchment areas or the Order Limits as well.

<b>BOUNDARIES</b>		<b>PROPOSED DRAINAGE</b>	
Order Limits	Local Authority boundary	Watercourse diversion	Ditch
Existing watercourse	P.S.	Infiltration basin, attenuation pond, infiltration pond	Pumping station
		Swale	Containment for contaminated water from tunnel low point sump

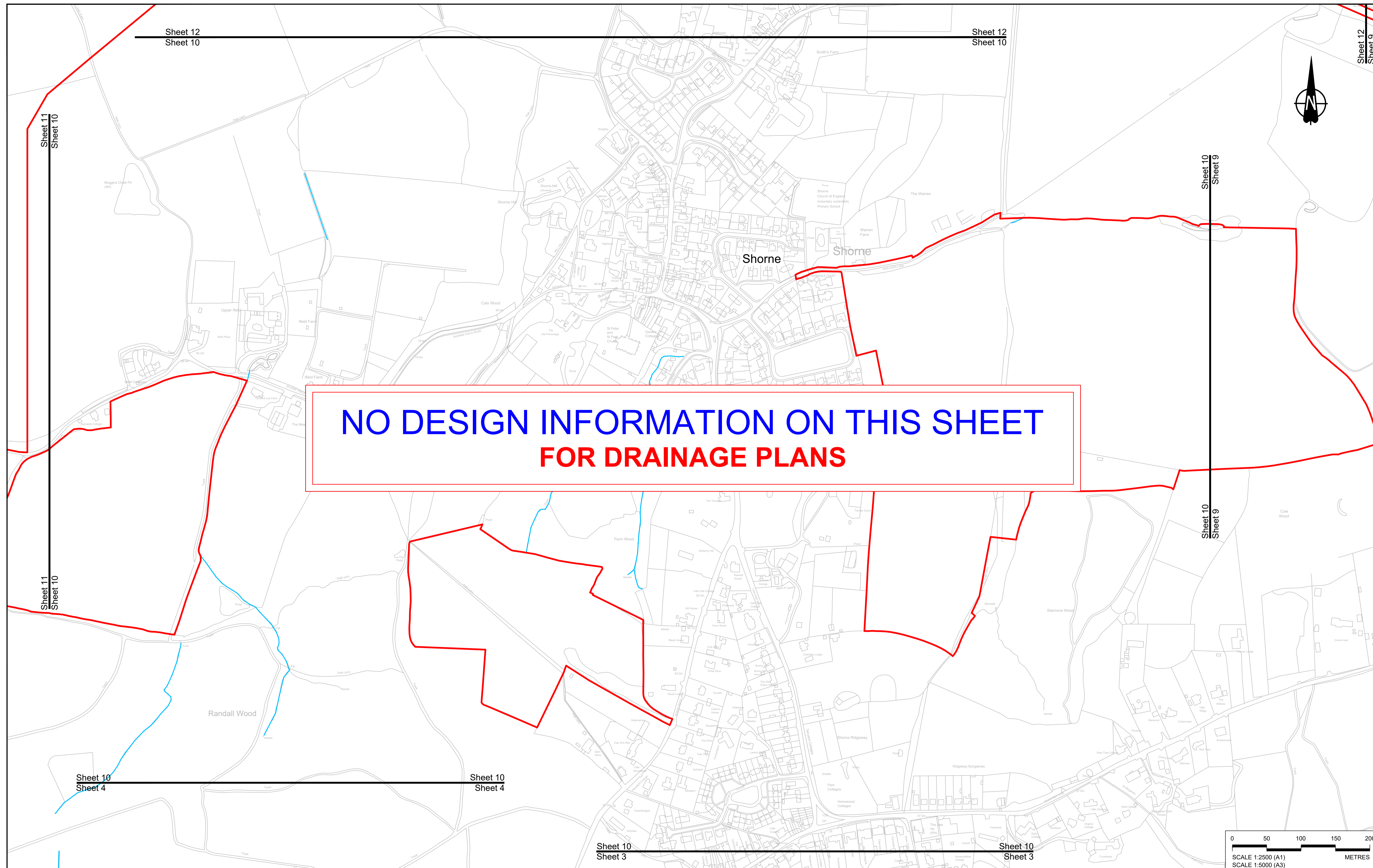
**Client**

**Project**

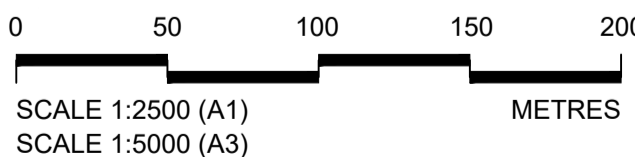
**LOWER THAMES CROSSING**

<b>Status</b>	DCO Application	<b>Original Size</b>	A1	<b>Revision</b>	P01
<b>Application Document Number</b>	TR010032/APP/2.16	<b>Scale</b>	1:2500		
<b>Drawing title</b>	<b>DRAINAGE PLANS REGULATION 5(2)(o) SHEET 9</b>				
<b>Drawing Number</b>	HE540039-CJV-BOP-SZZ_DN100000 -DR-CD-10007				

HE540039-CJV-BOP-SZZ\_DN100000 -DR-CD-10007.dwt



**NO DESIGN INFORMATION ON THIS SHEET  
FOR DRAINAGE PLANS**



Contains Ordnance Survey data. © Crown copyright and database rights 2022. Ordnance Survey 100039649						
P01	SB	19/10/2022	DCO Application	LY	BB	ASB
Rev	Status	Rev. Date	Purpose of revision	Drawn	Check'd	Appr'd

**NOTES:**

- The proposed works shown are illustrative only and will be subject to change as part of detailed design development. Any changes will be limited to being within the constraints included in the Development Consent Order (application document reference TR010032/APP/3.1).
- These plans should be read in conjunction with Schedule 1 (Authorise Development) of the Development Consent Order (application document reference TR010032/APP/3.1)
- Where proposed catchment areas boundaries overlap with each other or the Order Limits they are shown adjacent to each other or the Order Limit to provide greater visual clarity but these could extend to the boundary of other catchment areas or the Order Limits as well.

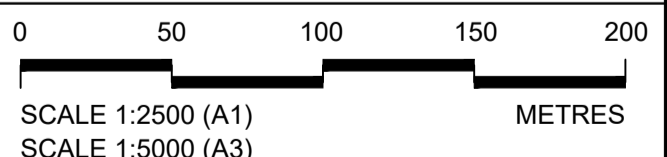
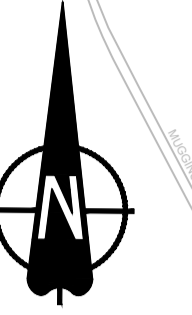
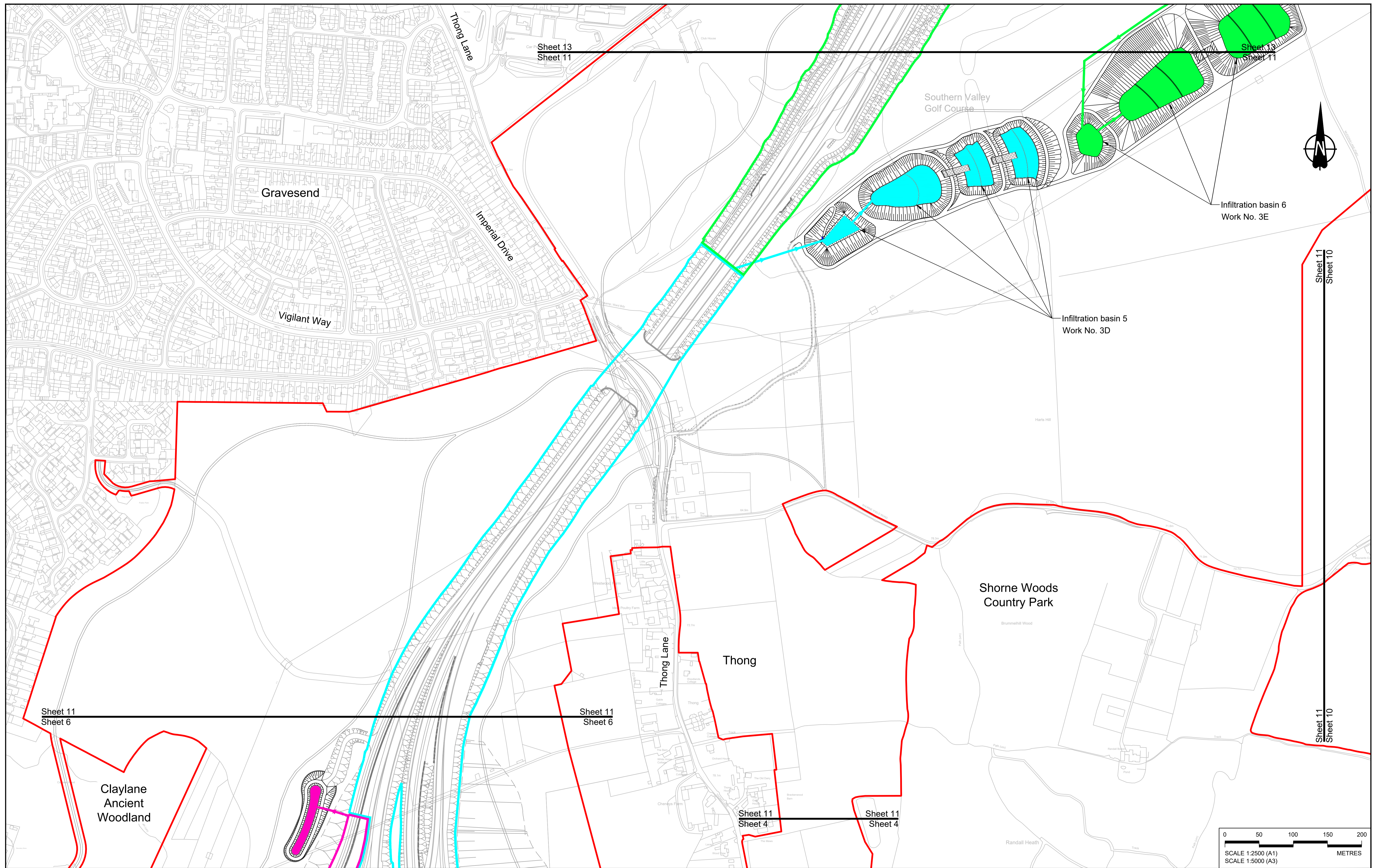
LEGEND:	
<b>BOUNDARIES</b>	<b>PROPOSED DRAINAGE</b>
Order Limits	Watercourse diversion
Local Authority boundary	Ditch
Existing watercourse	Culvert or pipe
P.S.	Pumping station
Infiltration basin, attenuation pond, infiltration pond	Containment for contaminated water from tunnel low point sump
Swale	



Client: national highways

Project: **LOWER THAMES CROSSING**

Status	DCO Application	Original Size	Revision
Application Document Number	TR010032/APP/2.16	A1	P01
Drawing title	<b>DRAINAGE PLANS REGULATION 5(2)(o) SHEET 10</b>		
Drawing Number	HE540039-CJV-BOP-SZZ_DN100000 -DR-CD-10008		
Scale: 1:2500			

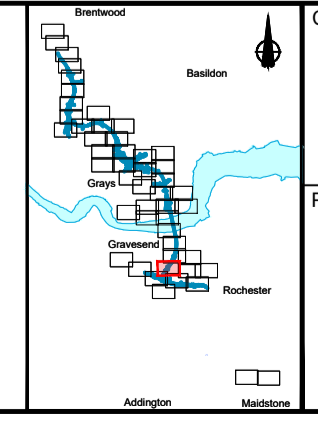


Contains Ordnance Survey data. © Crown copyright and database rights 2022. Ordnance Survey 100035649						
P01	SB	19/10/2022	DCO Application	LY	BB	ASB
Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd

**NOTES:**  
 1. The proposed works shown are illustrative only and will be subject to change as part of detailed design development. Any changes will be limited to being within the constraints included in the Development Consent Order (application document reference TR010032/APP/3.1).  
 2. These plans should be read in conjunction with Schedule 1 (Authorise Development) of the Development Consent Order (application document reference TR010032/APP/3.1).  
 3. Where proposed catchment areas boundaries overlap with each other or the Order Limits they are shown adjacent to each other or the Order Limit to provide greater visual clarity but these could extend to the boundary of other catchment areas or the Order Limits as well.

BOUNDARIES		PROPOSED DRAINAGE		CATCHMENT AREAS AND OUTFALLS	
	Order Limits		Watercourse diversion		Catchment for Work No. 3D
	Local Authority boundary		Infiltration basin, attenuation pond, infiltration pond		Outfall to Work No. 3D
	Existing watercourse		Swale		Catchment for Work No. 3E
					Outfall to Work No. 3E

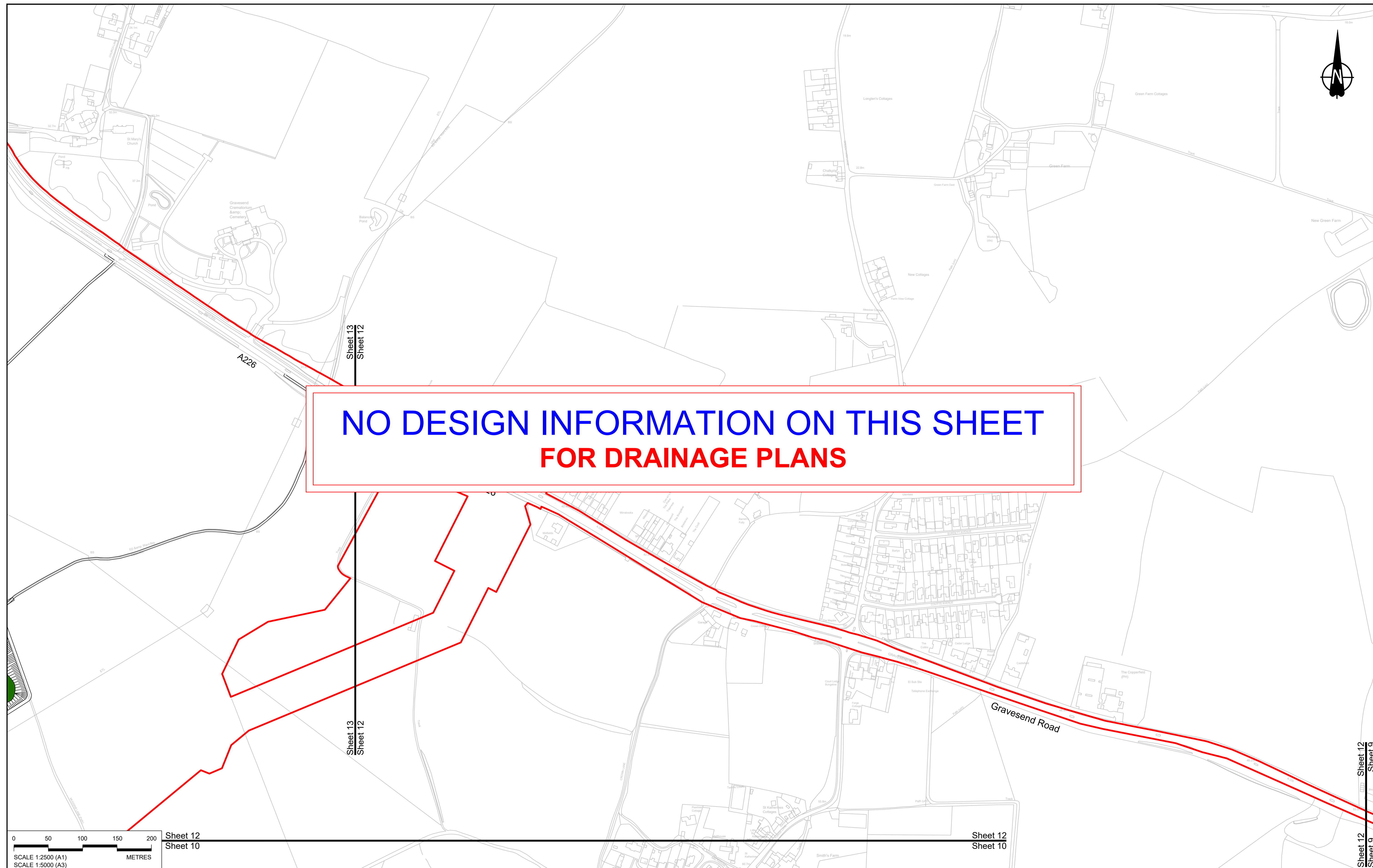
	Ditch
	Culvert or pipe
	Pumping station
	Containment for contaminated water from tunnel low point sump



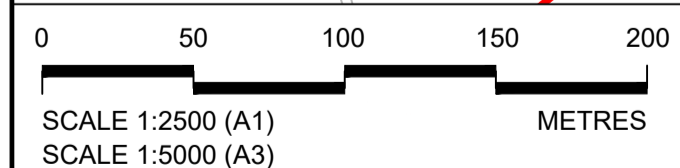
Client: **national highways**

Project: **LOWER THAMES CROSSING**

Status	DCO Application	Original Size	A1	Revision	P01
Application Document Number	TR010032/APP/2.16	Scale	1:2500		
Drawing title	<b>DRAINAGE PLANS REGULATION 5(2)(o) SHEET 11</b>				
Drawing Number	HE540039-CJV-BOP-SZZ_DN100000_-DR-CD-10009				



**NO DESIGN INFORMATION ON THIS SHEET  
FOR DRAINAGE PLANS**



Sheet 12  
Sheet 10

Sheet 12  
Sheet 10

Sheet 12  
Sheet 9

Contains Ordnance Survey data. © Crown copyright and database rights 2022. Ordnance Survey 100035649						
P01	SB	19/10/2022	DCO Application	LY	BB	B
Rev	Status	Rev. Date	Purpose of revision	Drawn	Check'd	Apprv'd

**NOTES:**

- The proposed works shown are illustrative only and will be subject to change as part of detailed design development. Any changes will be limited to being within the constraints included in the Development Consent Order (application document reference TR010032/APP/3.1).
- These plans should be read in conjunction with Schedule 1 (Authorise Development) of the Development Consent Order (application document reference TR010032/APP/3.1).
- Where proposed catchment areas boundaries overlap with each other or the Order Limits they are shown adjacent to each other or the Order Limit to provide greater visual clarity but these could extend to the boundary of other catchment areas or the Order Limits as well.

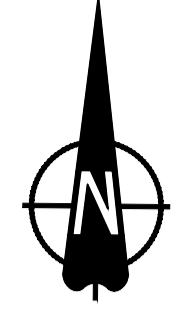
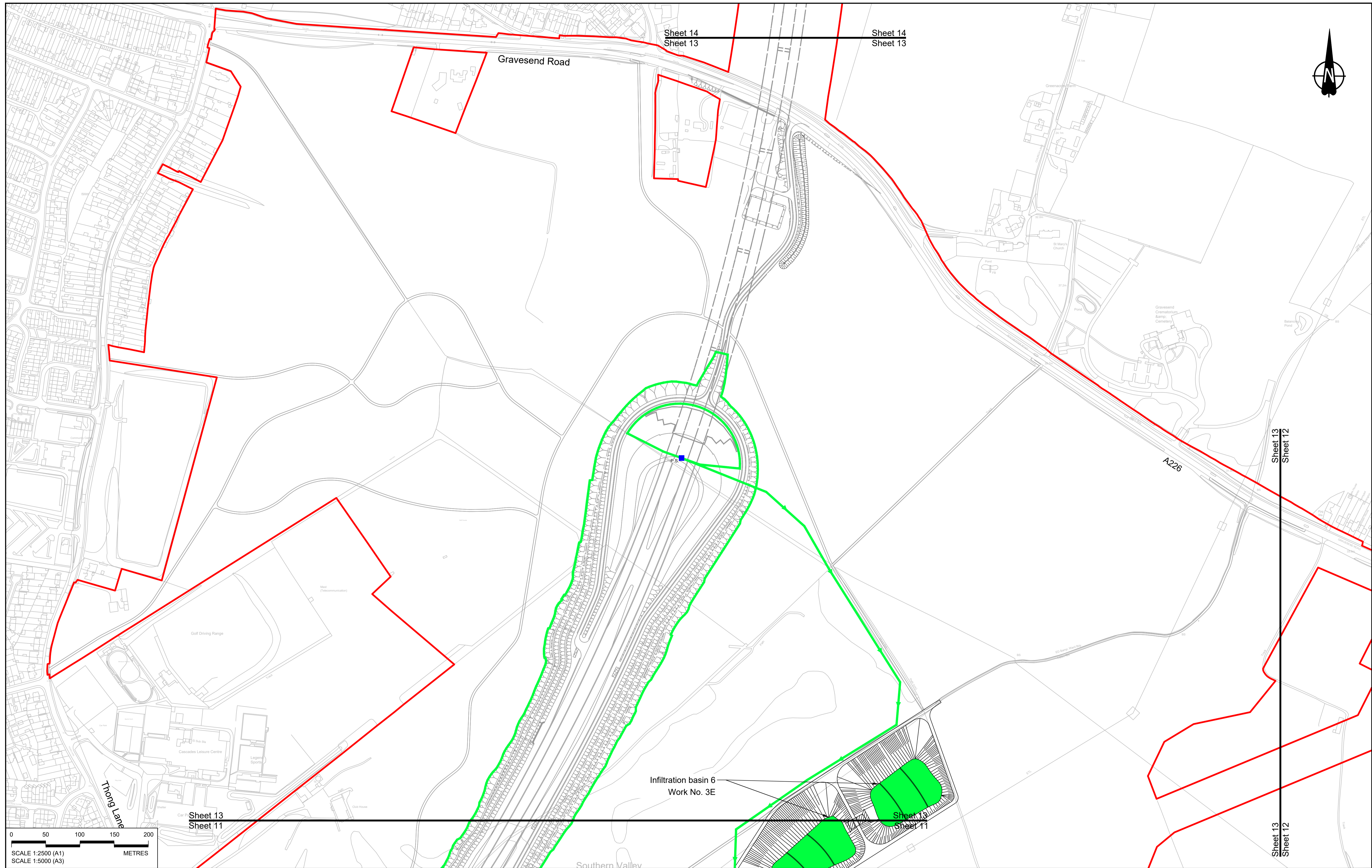
**LEGEND:**

<b>BOUNDARIES</b>	<b>PROPOSED DRAINAGE</b>	
Order Limits	Watercourse diversion	Ditch
Local Authority boundary	Infiltration basin, attenuation pond, infiltration pond	Culvert or pipe
Existing watercourse	P.S.	Pumping station
	Swale	Containment for contaminated water from tunnel low point sump

**national highways**

**LOWER THAMES CROSSING**

Status	DCO Application	Original Size	A1	Revision	P01
Application Document Number	TR010032/APP/2.16	Scale	1:2500		
Drawing title	<b>DRAINAGE PLANS REGULATION 5(2)(o) SHEET 12</b>				
Drawing Number	HE540039-CJV-BOP-SZZ_DN100000 -DR-CD-10050				

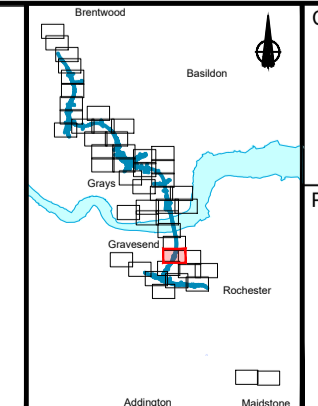


0 50 100 150 200  
 SCALE 1:2500 (A1)  
 SCALE 1:5000 (A3)  
 METRES

P01	SB	19/10/2022	DCO Application	LY	BB	ASB
Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd

**NOTES:**  
 1. The proposed works shown are illustrative only and will be subject to change as part of detailed design development. Any changes will be limited to being within the constraints included in the Development Consent Order (application document reference TR010032/APP/3.1).  
 2. These plans should be read in conjunction with Schedule 1 (Authorise Development) of the Development Consent Order (application document reference TR010032/APP/3.1).  
 3. Where proposed catchment areas boundaries overlap with each other or the Order Limits they are shown adjacent to each other or the Order Limit to provide greater visual clarity but these could extend to the boundary of other catchment areas or the Order Limits as well.

BOUNDARIES		PROPOSED DRAINAGE		CATCHMENT AREAS AND OUTFALLS	
	Order Limits		Watercourse diversion		Catchment for Work No. 3E
	Local Authority boundary		Infiltration basin, attenuation pond, infiltration pond		Outfall to Work No. 3E
	Existing watercourse		Swale		Pumping station
					Containment for contaminated water from tunnel low point sump
					Ditch
					Culvert or pipe



Client: **national highways**

Project: **LOWER THAMES CROSSING**

Status	DCO Application	Original Size	Revision
Application Document Number	TR010032/APP/2.16	A1	P01
Drawing title	<b>DRAINAGE PLANS REGULATION 5(2)(o) SHEET 13</b>		
Drawing Number	HE540039-CJV-BOP-SZZ_DN100000_-DR-CD-10010		
Scale		1:2500	

Sheet 15  
Sheet 14

Sheet 15  
Sheet 14



Thames Estuary  
and Marshes,  
SPA, SSSI and  
Ramsar site

Filborough Marshes

**NO DESIGN INFORMATION ON THIS SHEET  
FOR DRAINAGE PLANS**

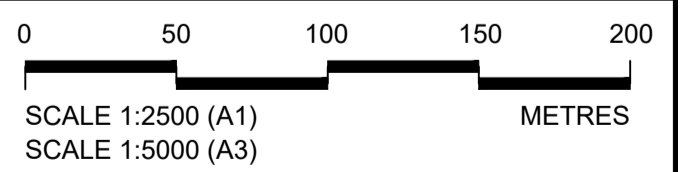
Lower Higham Road

Church Lane

Sheet 14  
Sheet 13

Sheet 14  
Sheet 13

Gravesend Road



Contains Ordnance Survey data. © Crown copyright and database rights 2022. Ordnance Survey 100030649

**NOTES:**

- The proposed works shown are illustrative only and will be subject to change as part of detailed design development. Any changes will be limited to being within the constraints included in the Development Consent Order (application document reference TR010032/APP/3.1).
- These plans should be read in conjunction with Schedule 1 (Authorise Development) of the Development Consent Order (application document reference TR010032/APP/3.1)
- Where proposed catchment areas boundaries overlap with each other or the Order Limits they are shown adjacent to each other or the Order Limit to provide greater visual clarity but these could extend to the boundary of other catchment areas or the Order Limits as well.

**LEGEND:**

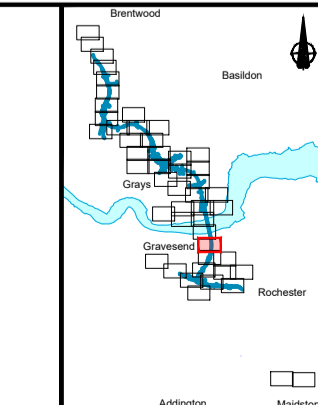
**BOUNDARIES**

- Order Limits
- Local Authority boundary
- Existing watercourse

**PROPOSED DRAINAGE**

- Watercourse diversion
- Infiltration basin, attenuation pond, infiltration pond
- Swale
- Ditch
- Culvert or pipe
- P.S. Pumping station
- Containment for contaminated water from tunnel low point sump

Rev	Status	Rev. Date	Purpose of revision	Drawn	Check'd	Apprv'd
P01	S8	19/10/2022	DCO Application	LY	BB	ASB



Client: **national highways**

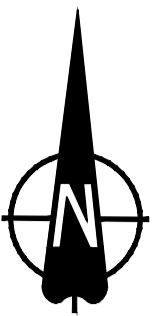
Project: **LOWER THAMES CROSSING**

Status	DCO Application	Original Size	A1	Revision	P01
Application Document Number	TR010032/APP/2.16	Scale	1:2500		
Drawing title	<b>DRAINAGE PLANS REGULATION 5(2)(o) SHEET 14</b>				
Drawing Number	HE540039-CJV-BOP-SZZ_DN100000_-DR-CD-10011				

HE540039-CJV-BOP-SZZ\_DN100000\_-DR-CD-10011.dwg

Sheet 16  
Sheet 15

Sheet 16  
Sheet 15



Thurrock Council  
Gravesham Borough Council

River Thames

**NO DESIGN INFORMATION ON THIS SHEET  
FOR DRAINAGE PLANS**



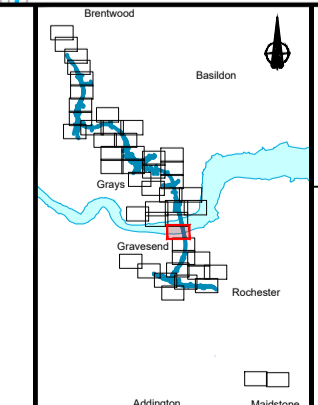
Contains Ordnance Survey data. © Crown copyright and database rights 2022. Ordnance Survey 100030649					
<b>NOTES:</b>					
1. The proposed works shown are illustrative only and will be subject to change as part of detailed design development. Any changes will be limited to being within the constraints included in the Development Consent Order (application document reference TR010032/APP/3.1).					
2. These plans should be read in conjunction with Schedule 1 (Authorise Development) of the Development Consent Order (application document reference TR010032/APP/3.1)					
3. Where proposed catchment areas boundaries overlap with each other or the Order Limits they are shown adjacent to each other or the Order Limit to provide greater visual clarity but these could extend to the boundary of other catchment areas or the Order Limits as well.					
P01	S8	19/10/2022	DCO Application	LY	BB ASB
Rev	Status	Rev. Date	Purpose of revision	Drawn	Chk'd Apprv'd

**LEGEND:**

- BOUNDARIES**
- Order Limits
  - Local Authority boundary
  - Existing watercourse

- PROPOSED DRAINAGE**
- Watercourse diversion
  - Infiltration basin, attenuation pond, infiltration pond
  - Swale

- Ditch
- Culvert or pipe
- P.S. Pumping station
- Containment for contaminated water from tunnel low point sump

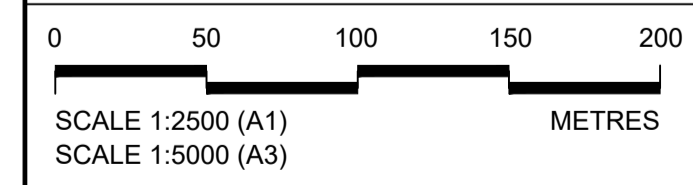
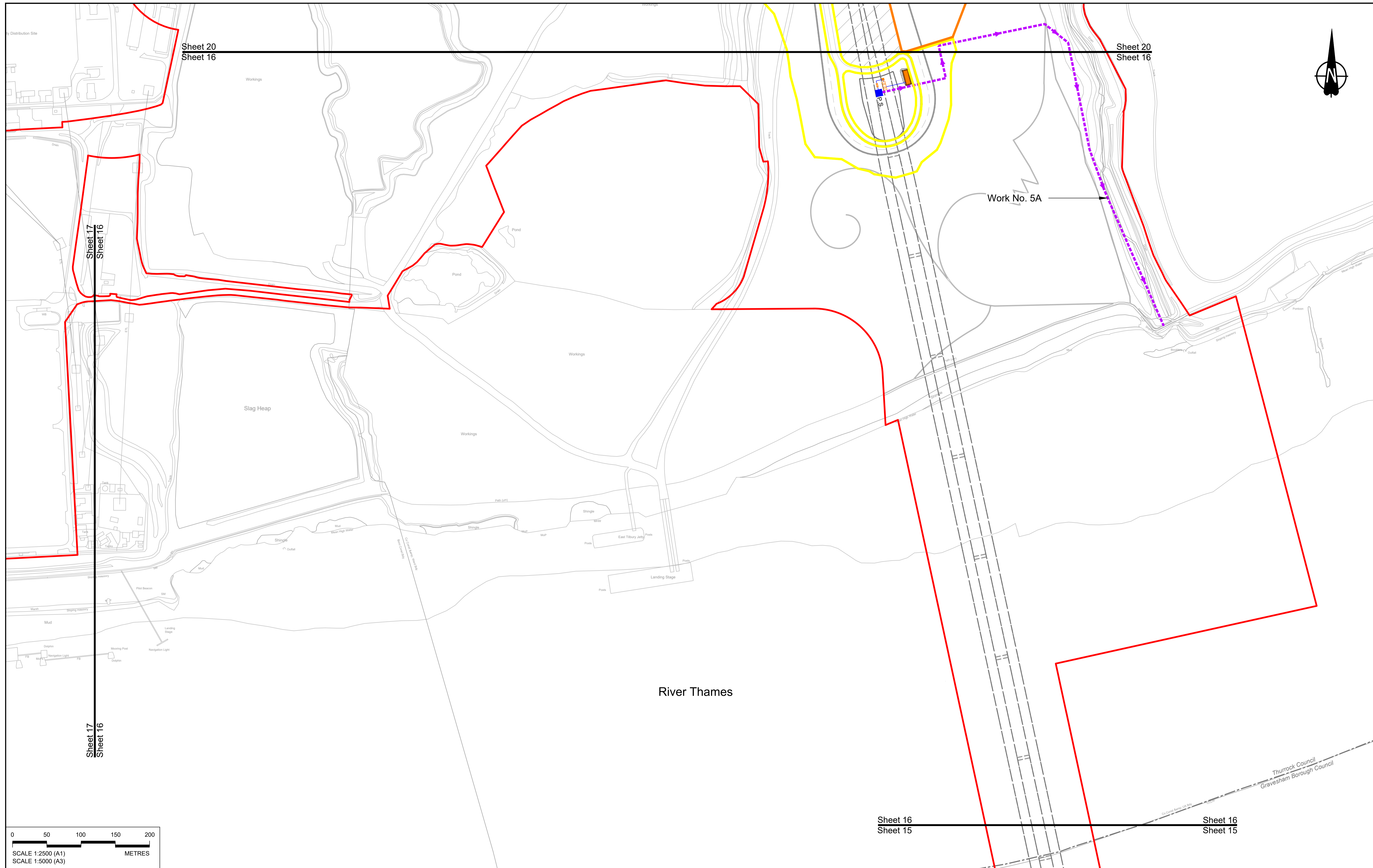


Client: **national highways**

Project: **LOWER THAMES CROSSING**

Status	DCO Application	Original Size	A1	Revision	P01
Application Document Number	TR010032/APP/2.16	Scale	1:2500		
Drawing title	<b>DRAINAGE PLANS REGULATION 5(2)(o) SHEET 15</b>				
Drawing Number	HE540039-CJV-BOP-SZZ_DN100000_-DR-CD-10012				





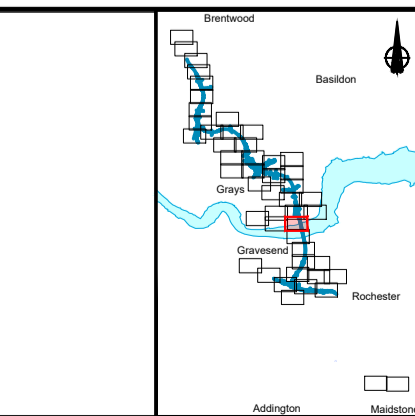
Contains Ordnance Survey data. © Crown copyright and database rights 2022. Ordnance Survey 100035649

P01	SB	19/10/2022	DCO Application	LY	BB	ASB
Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd

**NOTES:**

- The proposed works shown are illustrative only and will be subject to change as part of detailed design development. Any changes will be limited to being within the constraints included in the Development Consent Order (application document reference TR010032/APP/3.1).
- These plans should be read in conjunction with Schedule 1 (Authorise Development) of the Development Consent Order (application document reference TR010032/APP/3.1).
- Where proposed catchment areas boundaries overlap with each other or the Order Limits they are shown adjacent to each other or the Order Limit to provide greater visual clarity but these could extend to the boundary of other catchment areas or the Order Limits as well.

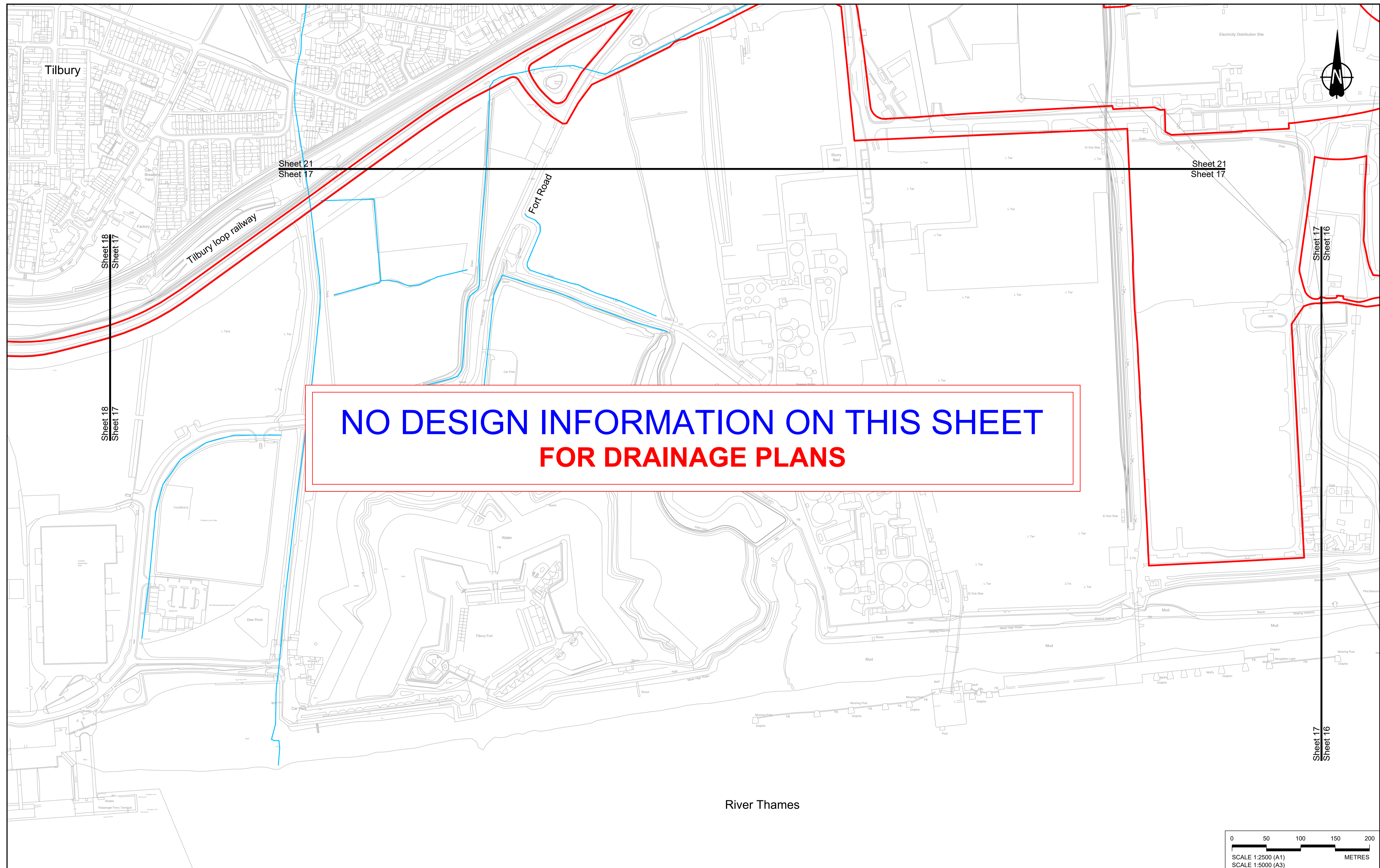
BOUNDARIES		PROPOSED DRAINAGE		CATCHMENT AREAS AND OUTFALLS	
	Order Limits		Watercourse diversion		Catchment for North portal pump
	Local Authority boundary		Infiltration basin, attenuation pond, infiltration pond		Catchment for Work No. 5G
	Existing watercourse		Swale		Discharge from Tunnel into River Thames (Work No. 5A)
					Pumping station
					Containment for contaminated water from tunnel low point sump



Client:

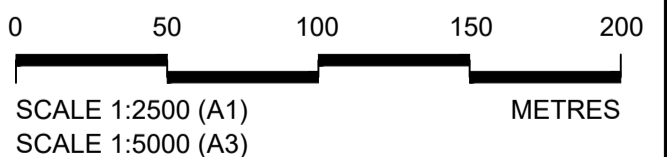
Project: **LOWER THAMES CROSSING**

Status	DCO Application	Original Size	Revision
Application Document Number	TR010032/APP/2.16	A1	P01
Drawing title	DRAINAGE PLANS REGULATION 5(2)(o) SHEET 16		
Drawing Number	HE540039-CJV-BOP-SZZ_DN100000 -DR-CD-10013		
		Scale	1:2500



**NO DESIGN INFORMATION ON THIS SHEET  
FOR DRAINAGE PLANS**

River Thames



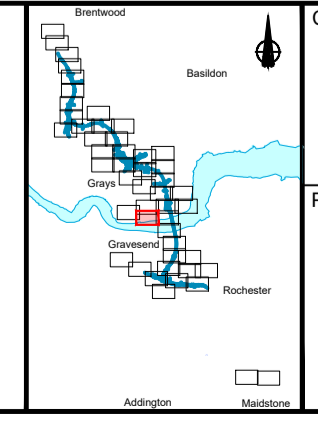
Contains Ordnance Survey data. © Crown copyright and database rights 2022. Ordnance Survey 100039649					
P01	SB	19/10/2022	DCO Application	LY	BB ASB
Rev	Status	Rev. Date	Purpose of revision	Drawn	Check'd / Apprv'd

**NOTES:**

- The proposed works shown are illustrative only and will be subject to change as part of detailed design development. Any changes will be limited to being within the constraints included in the Development Consent Order (application document reference TR010032/APP/3.1).
- These plans should be read in conjunction with Schedule 1 (Authorise Development) of the Development Consent Order (application document reference TR010032/APP/3.1)
- Where proposed catchment areas boundaries overlap with each other or the Order Limits they are shown adjacent to each other or the Order Limit to provide greater visual clarity but these could extend to the boundary of other catchment areas or the Order Limits as well.

**LEGEND:**

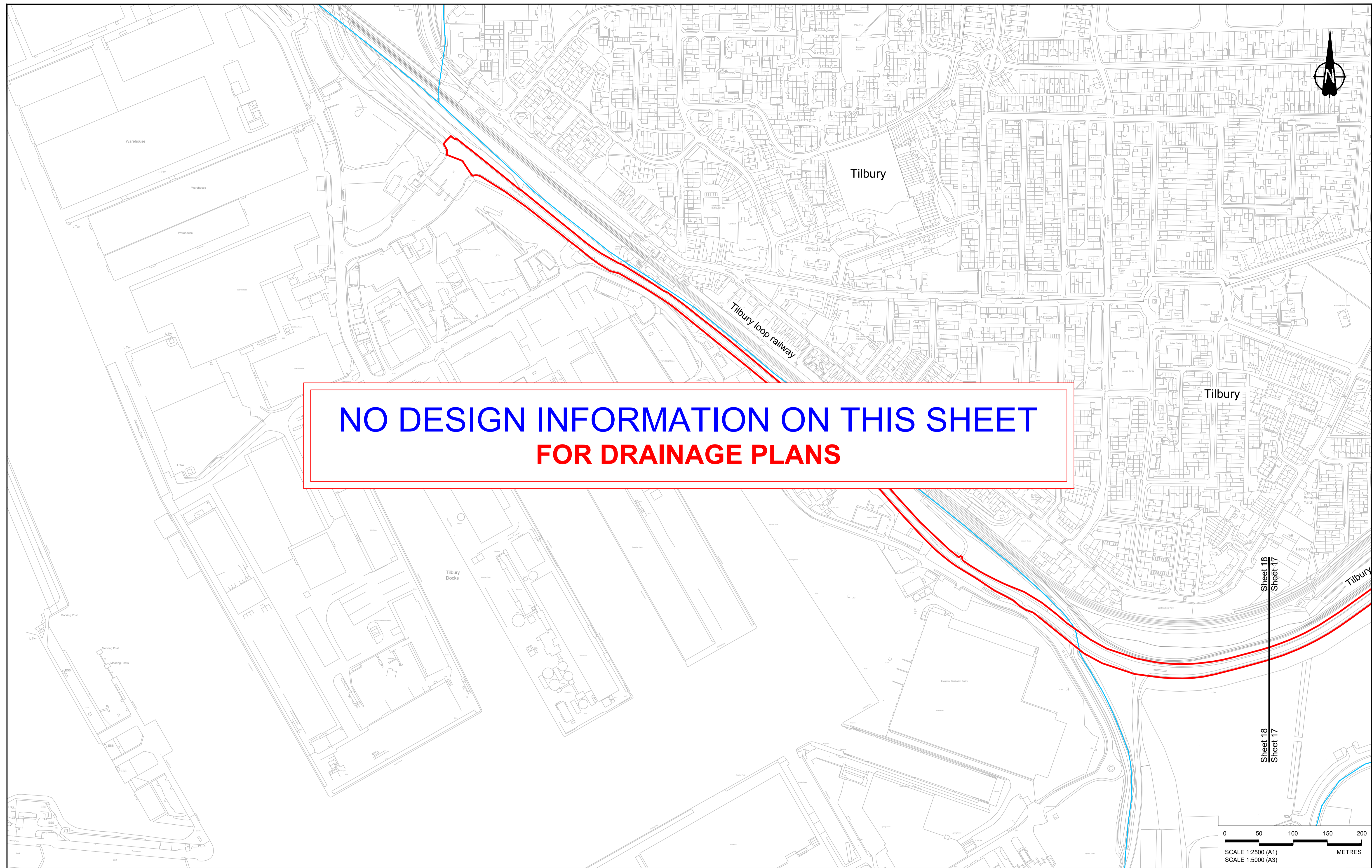
<b>BOUNDARIES</b>	<b>PROPOSED DRAINAGE</b>	
Order Limits	Watercourse diversion	Ditch
Local Authority boundary	Infiltration basin, attenuation pond, infiltration pond	Culvert or pipe
Existing watercourse	Swale	P.S. Pumping station
		Containment for contaminated water from tunnel low point sump



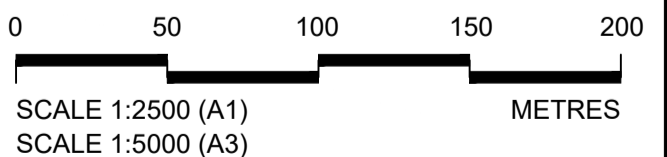
**national highways**

Project: **LOWER THAMES CROSSING**

Status	DCO Application	Original Size	Revision
Application Document Number	TR010032/APP/2.16	A1	P01
Drawing title	<b>DRAINAGE PLANS REGULATION 5(2)(o) SHEET 17</b>		
Drawing Number	HE540039-CJV-BOP-SZZ_DN100000 -DR-CD-10014		
Scale: 1:2500			



**NO DESIGN INFORMATION ON THIS SHEET  
FOR DRAINAGE PLANS**



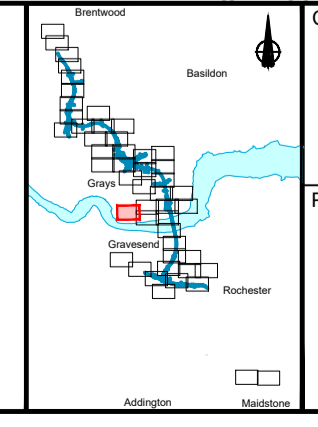
Contains Ordnance Survey data. © Crown copyright and database rights 2022. Ordnance Survey 100039649						
P01	SB	19/10/2022	DCO Application	LY	BB	ASB
Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd

**NOTES:**

- The proposed works shown are illustrative only and will be subject to change as part of detailed design development. Any changes will be limited to being within the constraints included in the Development Consent Order (application document reference TR010032/APP/3.1).
- These plans should be read in conjunction with Schedule 1 (Authorise Development) of the Development Consent Order (application document reference TR010032/APP/3.1).
- Where proposed catchment areas boundaries overlap with each other or the Order Limits they are shown adjacent to each other or the Order Limit to provide greater visual clarity but these could extend to the boundary of other catchment areas or the Order Limits as well.

**LEGEND:**

<b>BOUNDARIES</b>	<b>PROPOSED DRAINAGE</b>	
Order Limits	Watercourse diversion	Ditch
Local Authority boundary	Infiltration basin, attenuation pond, infiltration pond	Culvert or pipe
Existing watercourse	Swale	P.S. Pumping station
		Containment for contaminated water from tunnel low point sump



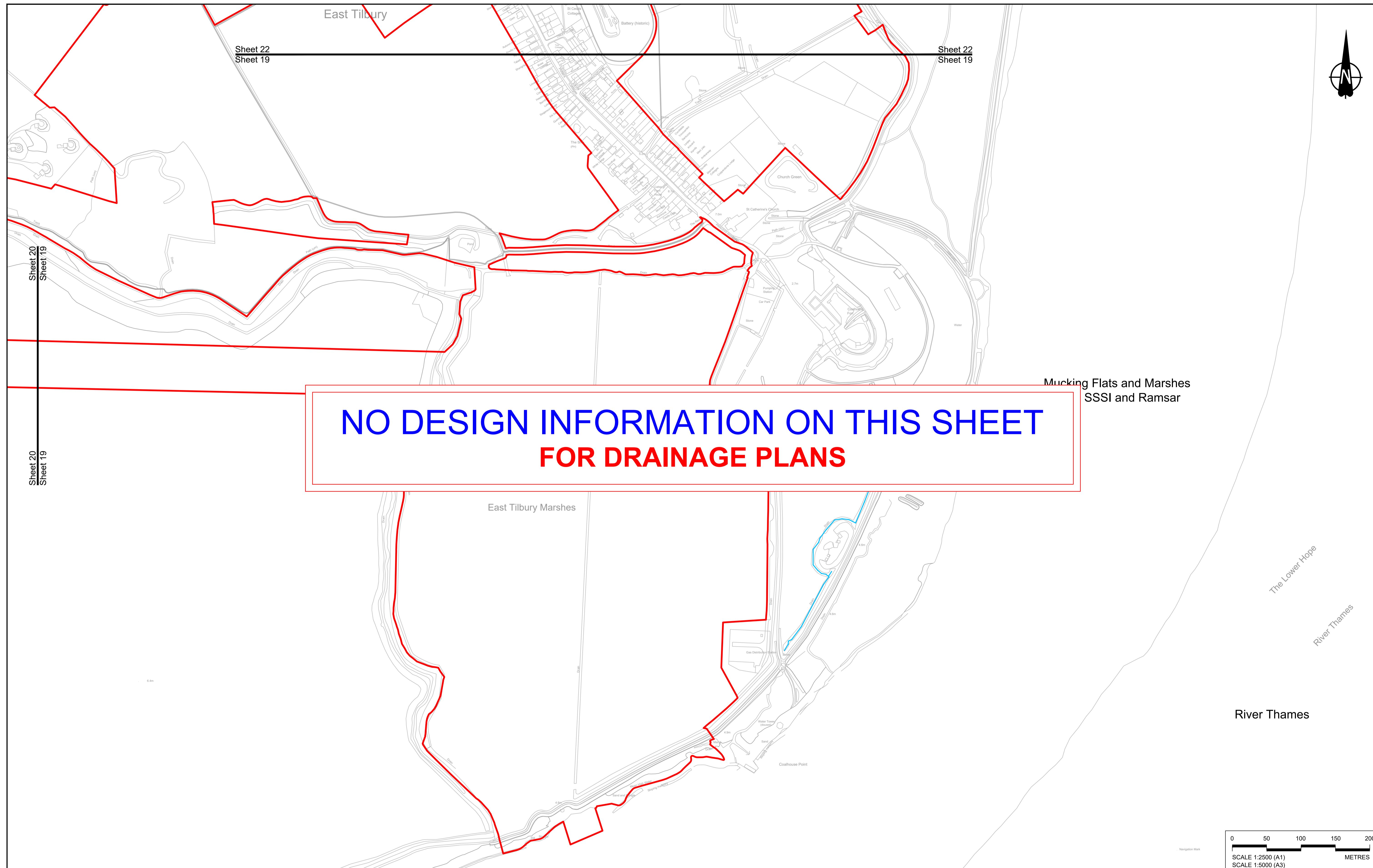
**national highways**

Client

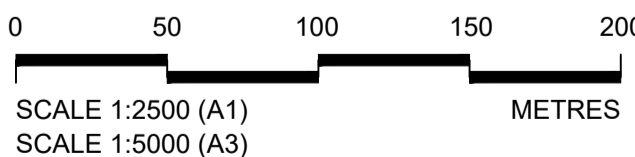
Project

**LOWER THAMES CROSSING**

Status	DCO Application	Original Size	Revision
Application Document Number	TR010032/APP/2.16	A1	P01
Drawing title	<b>DRAINAGE PLANS REGULATION 5(2)(o) SHEET 18</b>		
Drawing Number	HE540039-CJV-BOP-SZZ_DN100000_-DR-CD-10015		
		Scale	1:2500



**NO DESIGN INFORMATION ON THIS SHEET  
FOR DRAINAGE PLANS**

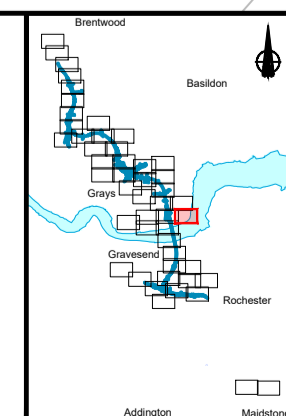


Contains Ordnance Survey data. © Crown copyright and database rights 2022. Ordnance Survey 100035649						
P01	SB	19/10/2022	DCO Application	LY	BB	ASB
Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd

**NOTES:**

- The proposed works shown are illustrative only and will be subject to change as part of detailed design development. Any changes will be limited to being within the constraints included in the Development Consent Order (application document reference TR010032/APP/3.1).
- These plans should be read in conjunction with Schedule 1 (Authorise Development) of the Development Consent Order (application document reference TR010032/APP/3.1).
- Where proposed catchment areas boundaries overlap with each other or the Order Limits they are shown adjacent to each other or the Order Limit to provide greater visual clarity but these could extend to the boundary of other catchment areas or the Order Limits as well.

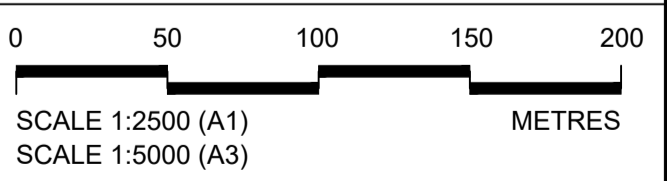
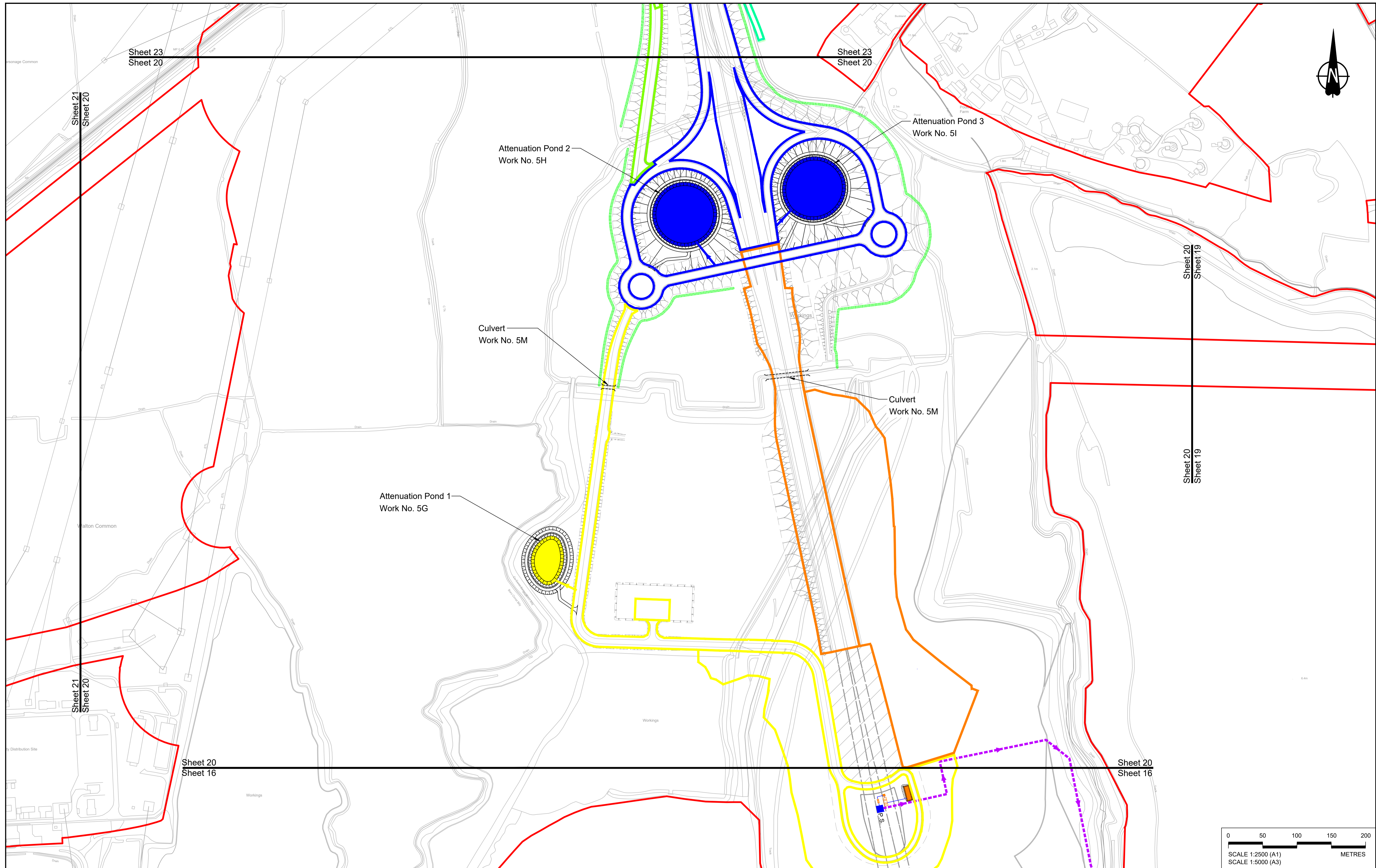
BOUNDARIES		PROPOSED DRAINAGE	
	Order Limits		Watercourse diversion
	Local Authority boundary		Infiltration basin, attenuation pond, infiltration pond
	Existing watercourse		Swale
			Ditch
			Culvert or pipe
			Pumping station
			Containment for contaminated water from tunnel low point sump



Client: national highways

Project: **LOWER THAMES CROSSING**

Status	DCO Application	Original Size	Revision
Application Document Number	TR010032/APP/2.16	A1	P01
Drawing title	<b>DRAINAGE PLANS REGULATION 5(2)(o) SHEET 19</b>		
Drawing Number	HE540039-CJV-BOP-SZZ_DN100000_-DR-CD-10016		
Scale: 1:2500			



Rev	Status	Rev. Date	Purpose of revision	Drawn	Chck'd	Apprv'd
P01	SB	19/10/2022	DCO Application	LY	BB	ASB

**NOTES:**

- The proposed works shown are illustrative only and will be subject to change as part of detailed design development. Any changes will be limited to being within the constraints included in the Development Consent Order (application document reference TR010032/APP/3.1).
- These plans should be read in conjunction with Schedule 1 (Authorise Development) of the Development Consent Order (application document reference TR010032/APP/3.1).
- Where proposed catchment areas boundaries overlap with each other or the Order Limits they are shown adjacent to each other or the Order Limit to provide greater visual clarity but these could extend to the boundary of other catchment areas or the Order Limits as well.

**LEGEND:**

**BOUNDARIES**

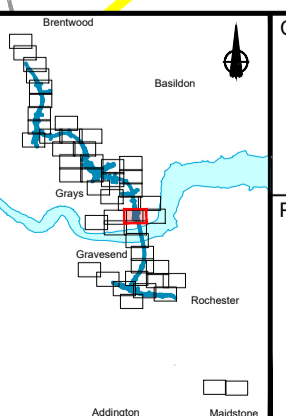
- Order Limits
- Local Authority boundary
- Existing watercourse

**PROPOSED DRAINAGE**

- Watercourse diversion
- Infiltration basin, attenuation pond, infiltration pond
- Swale
- Ditch
- Culvert or pipe
- Pumping station
- Containment for contaminated water from tunnel low point sump

**CATCHMENT AREAS AND OUTFALLS**

- Catchment for North portal pump
- Catchment for Work No. 5G
- Outfall to Work No. 5G
- Catchment for Work No. 5H and 5I
- Outfall to Work No. 5H and 5I
- Catchment for Work No. 5J
- Discharge from Tunnel into River Thames



Client: **national highways**

Project: **LOWER THAMES CROSSING**

Status	DCO Application	Original Size	Revision
Application Document Number	TR010032/APP/2.16	A1	P01
Drawing title	<b>DRAINAGE PLANS REGULATION 5(2)(o) SHEET 20</b>		
Drawing Number	HE540039-CJV-BOP-SZZ_DN100000 -DR-CD-10017		

If you need help accessing this or any other National Highways information, please call **0300 123 5000** and we will help you.

© Crown copyright 2022.

You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence. To view this licence:

visit [www.nationalarchives.gov.uk/doc/open-government-licence/](http://www.nationalarchives.gov.uk/doc/open-government-licence/)

write to the **Information Policy Team, The National Archives, Kew, London TW9 4DU**, or email [psi@nationalarchives.gsi.gov.uk](mailto:psi@nationalarchives.gsi.gov.uk).

Mapping (where present): © Crown copyright and database rights 2022 OS 100030649. You are permitted to use this data solely to enable you to respond to, or interact with, the organisation that provided you with the data. You are not permitted to copy, sub-licence, distribute or sell any of this data to third parties in any form.

If you have any enquiries about this publication email [info@nationalhighways.co.uk](mailto:info@nationalhighways.co.uk) or call **0300 123 5000\***.

\*Calls to 03 numbers cost no more than a national rate call to an 01 or 02 number and must count towards any inclusive minutes in the same way as 01 and 02 calls.

These rules apply to calls from any type of line including mobile, BT, other fixed line or payphone. Calls may be recorded or monitored.

Printed on paper from well-managed forests and other controlled sources when issued directly by National Highways.

Registered office Bridge House, 1 Walnut Tree Close, Guildford GU1 4LZ

National Highways Company Limited registered in England and Wales number 09346363