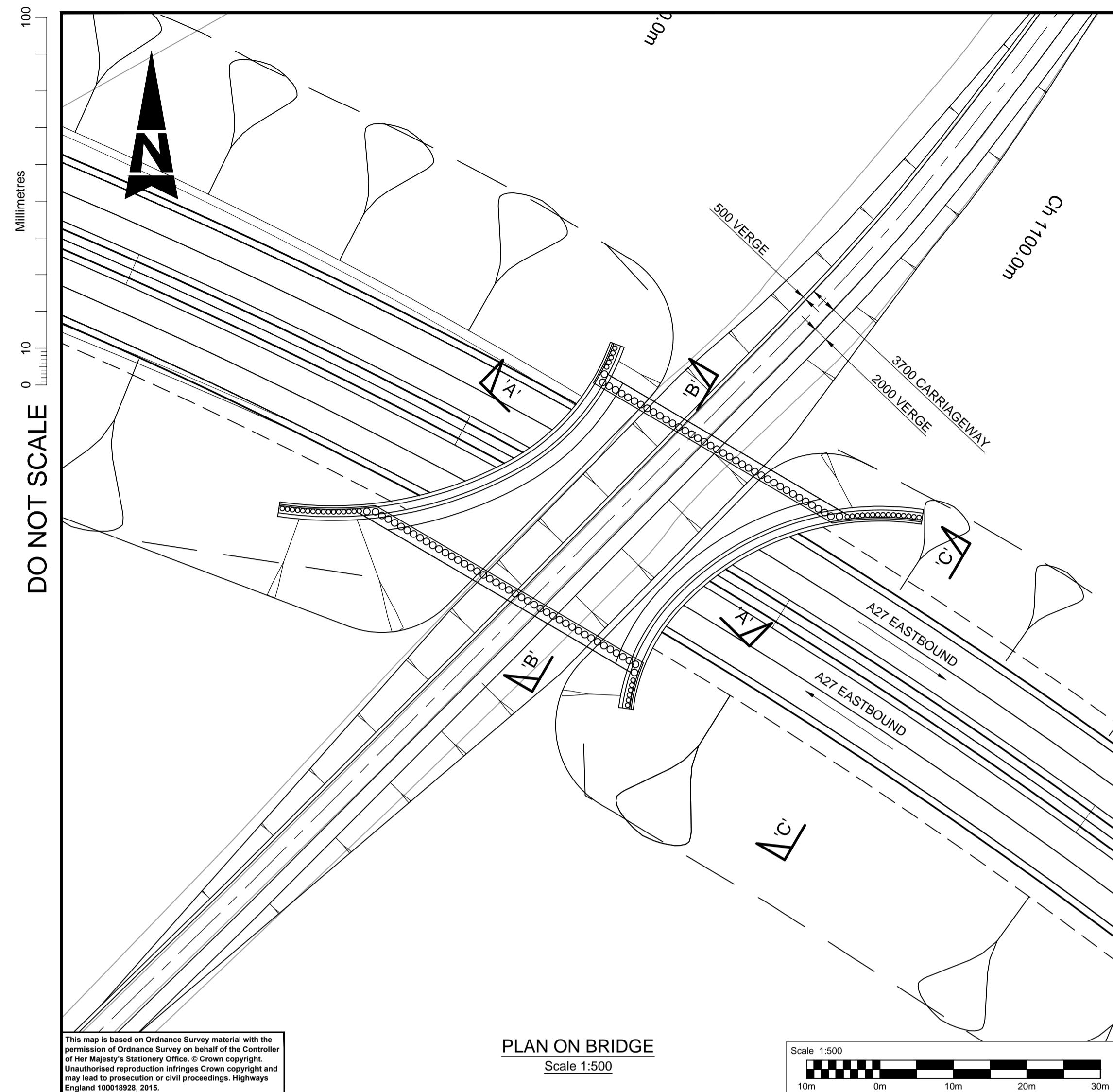


Appendix H

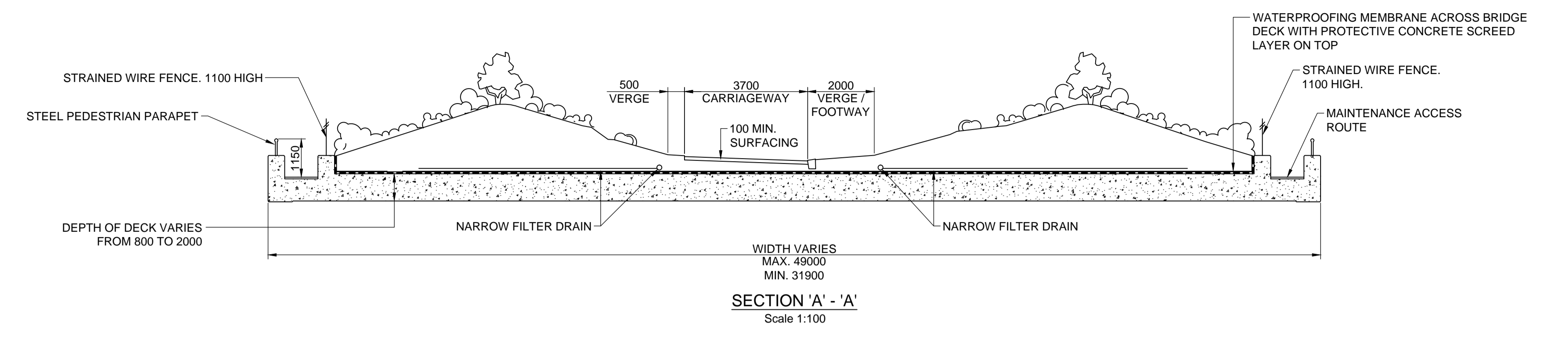
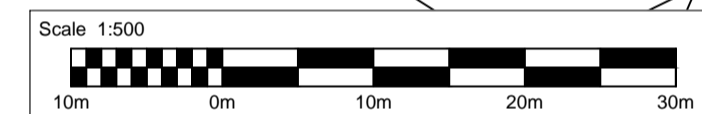
DRAWINGS OF TYPICAL STRUCTURES

APPENDIX H-1
TYPICAL STRUCTURES

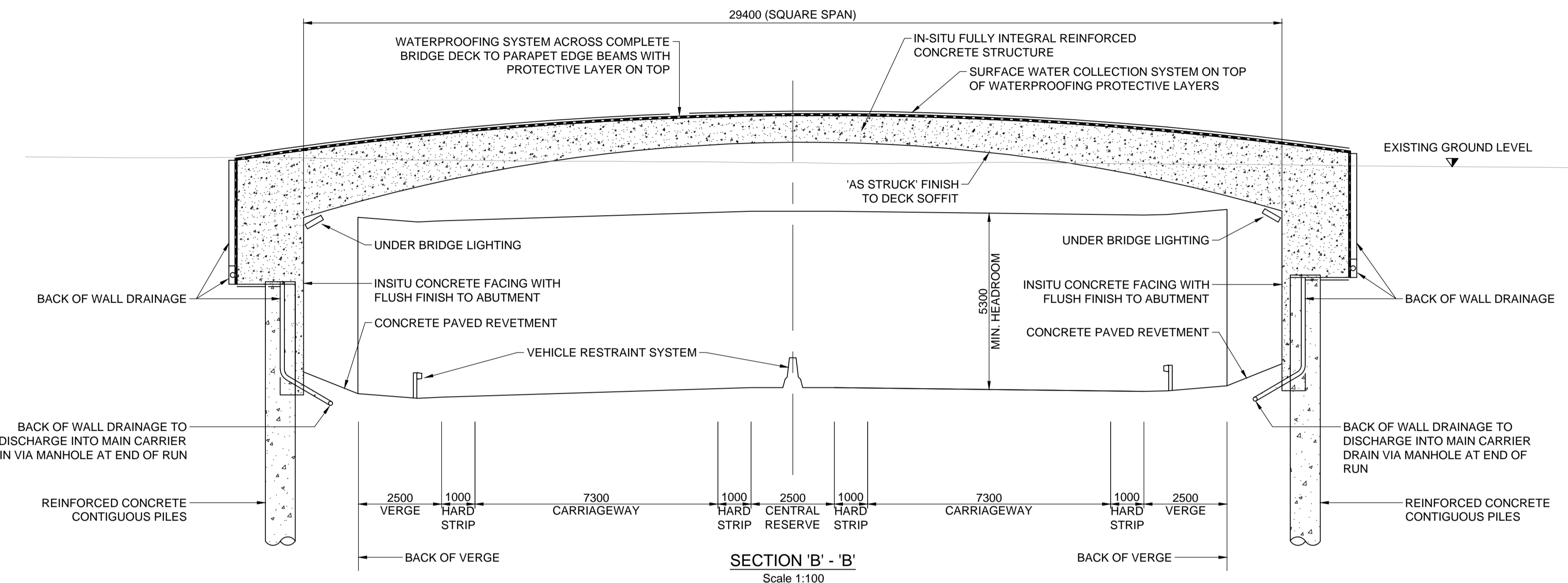


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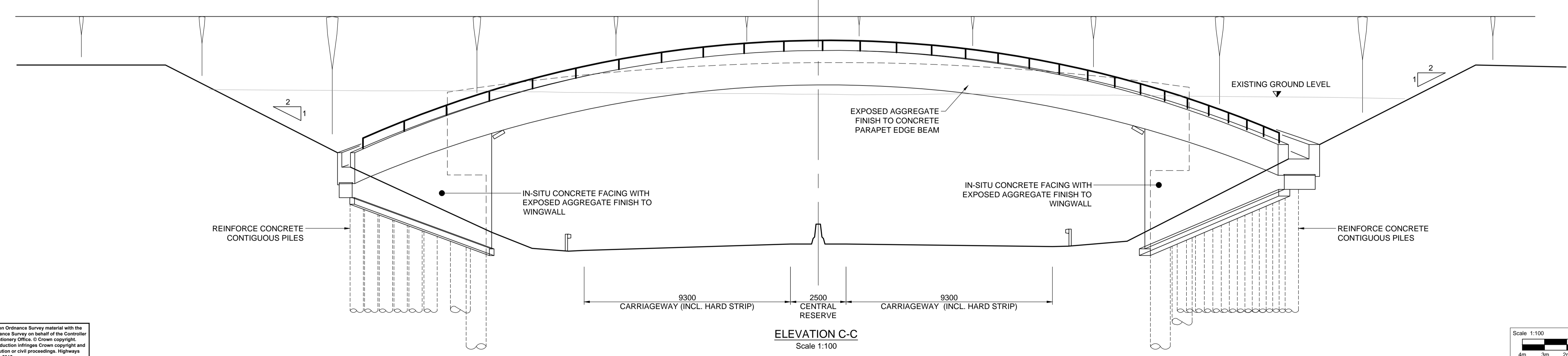
PLAN ON BRIDGE
Scale 1:500



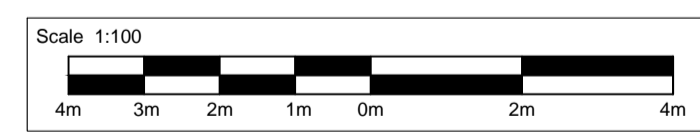
SECTION 'A' - 'A'
Scale 1:100



SECTION 'B' - 'B'
Scale 1:100



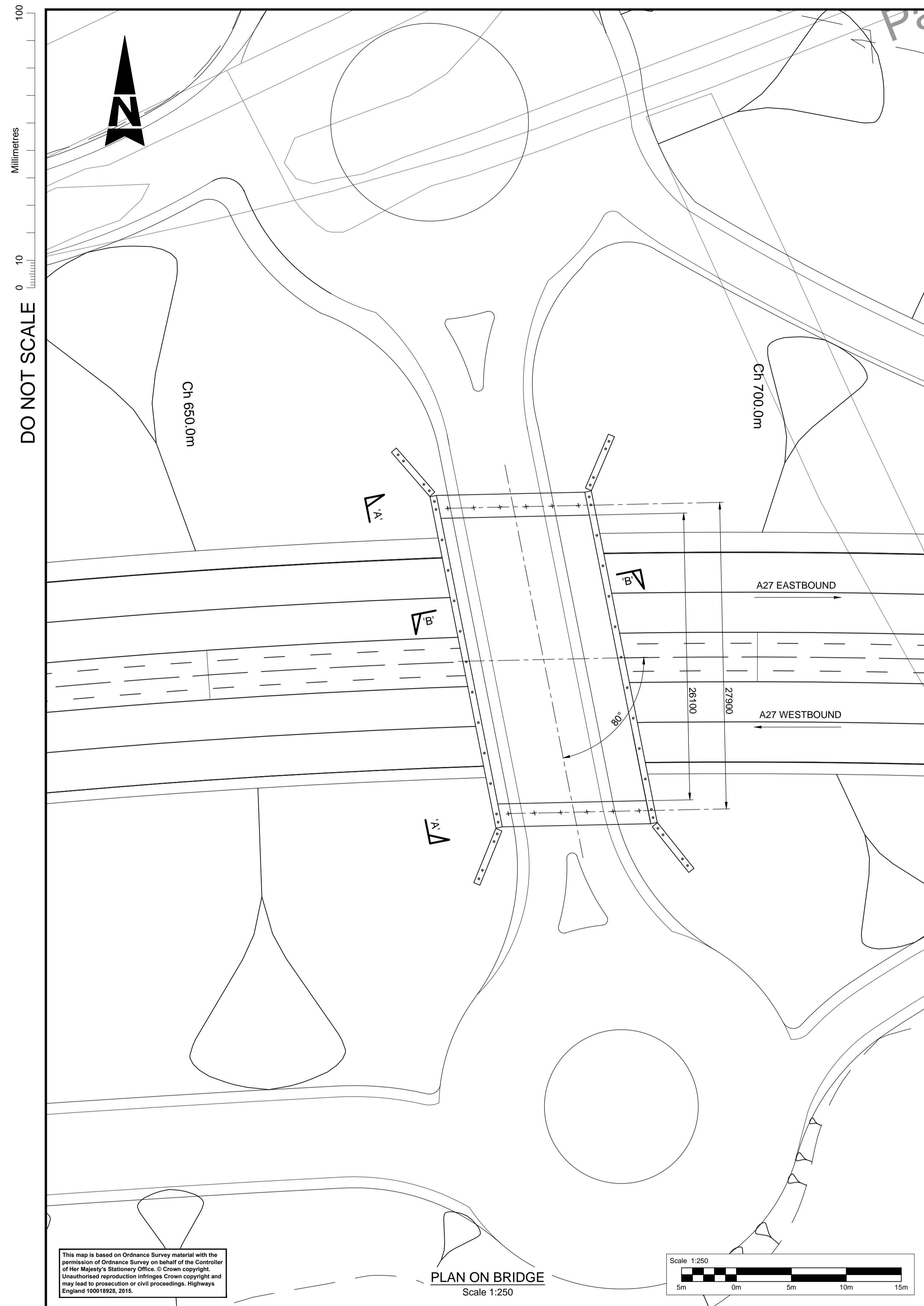
ELEVATION C-C
Scale 1:100



- NOTES:**
- THESE DRAWINGS HAVE BEEN PREPARED TO AID WITH THE PCF STAGE 1 COST ESTIMATION OF THE PROPOSED OPTIONS FOR THE A27 ARUNDEL BYPASS.
 - DO NOT SCALE OFF THIS DRAWING, USE STATED DIMENSIONS ONLY.
 - REFER TO DRAWING HE551523-WSP-SGN-A27AR-DR-S-0001 FOR STRUCTURE LOCATIONS.
 - ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
 - ALL LEVELS ARE IN METRES AND ARE ABOVE ORDNANCE DATUM UNLESS NOTED OTHERWISE.
 - NO SERVICE INFORMATION IS CURRENTLY SHOWN.

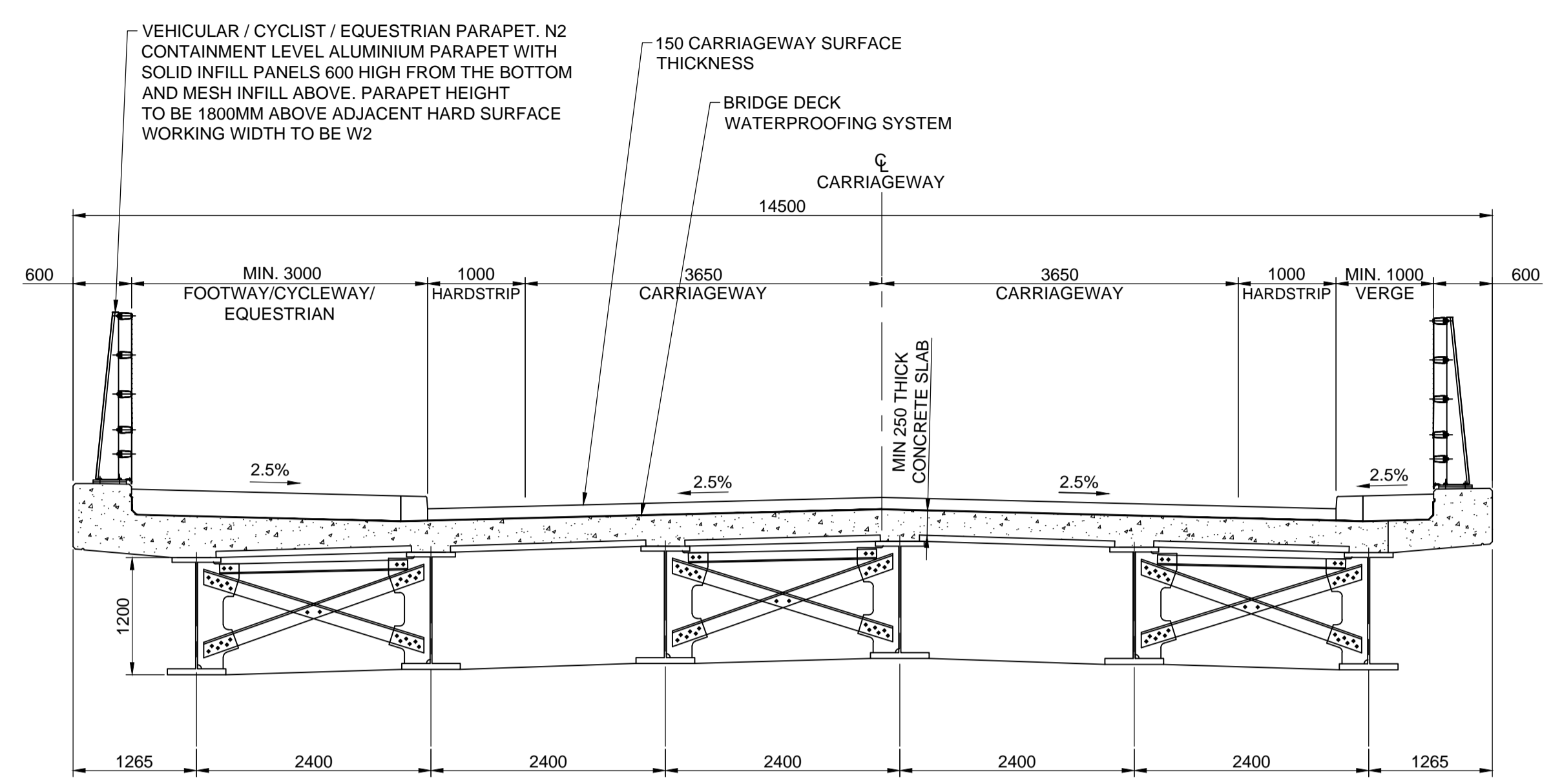
SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION						
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).						
Construction						
Maintenance / Cleaning						
Use						
Decommissioning / Demolition						
Rev.	Date	Description	By	Chkd	App'd	
P01	19/05/16	First Issue		TC	BH	BS

Drawing Status		FOR INFORMATION		Suitability		S2		Project Title				REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS											
Client		Working on behalf of		highways england		Westbrook Mills Borough Road Godalming Surrey GU7 2AZ Tel: +44 (0)1483 528400 Fax: +44 (0)1483 528989 www.wsp-pb.co.uk		Drawing Title				BINSTEAD LANE 1 OVERBRIDGE & TORTINGTON LANE OVERBRIDGE GENERAL ARRANGEMENT											
Original Size		A1		Date		11/05/16		Checked		BH		Approved		BS		Authorised		Date		---			
Project		HE551523 - WSP - SBR - A27AR - DR - S - 0001		Date		11/05/16		Date		11/05/16		Date		19/05/16		Date		---		Project Ref. No.		3514447G	
Location		Type		Role		Number		Revision		P01													

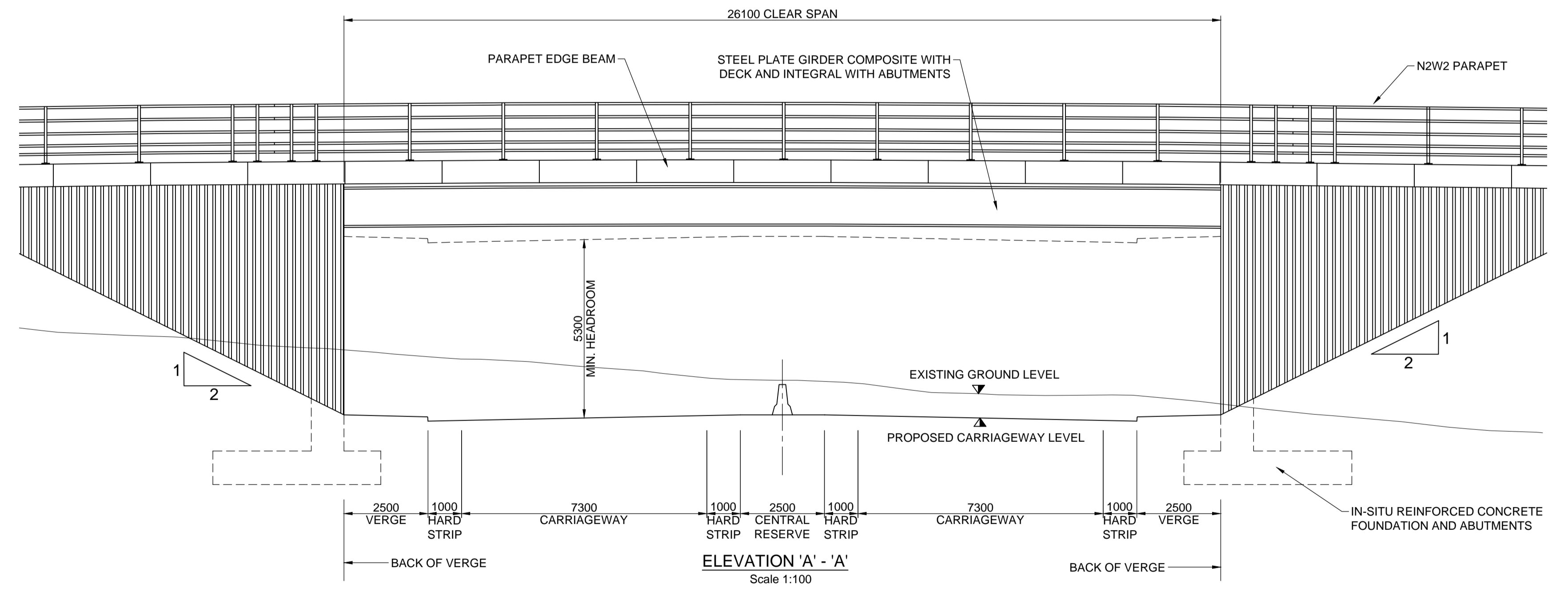
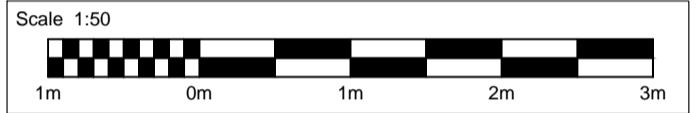


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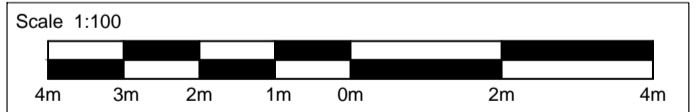
PLAN ON BRIDGE
Scale 1:250



SECTION 'B' - 'B'
Scale 1:50



ELEVATION 'A' - 'A'
Scale 1:100

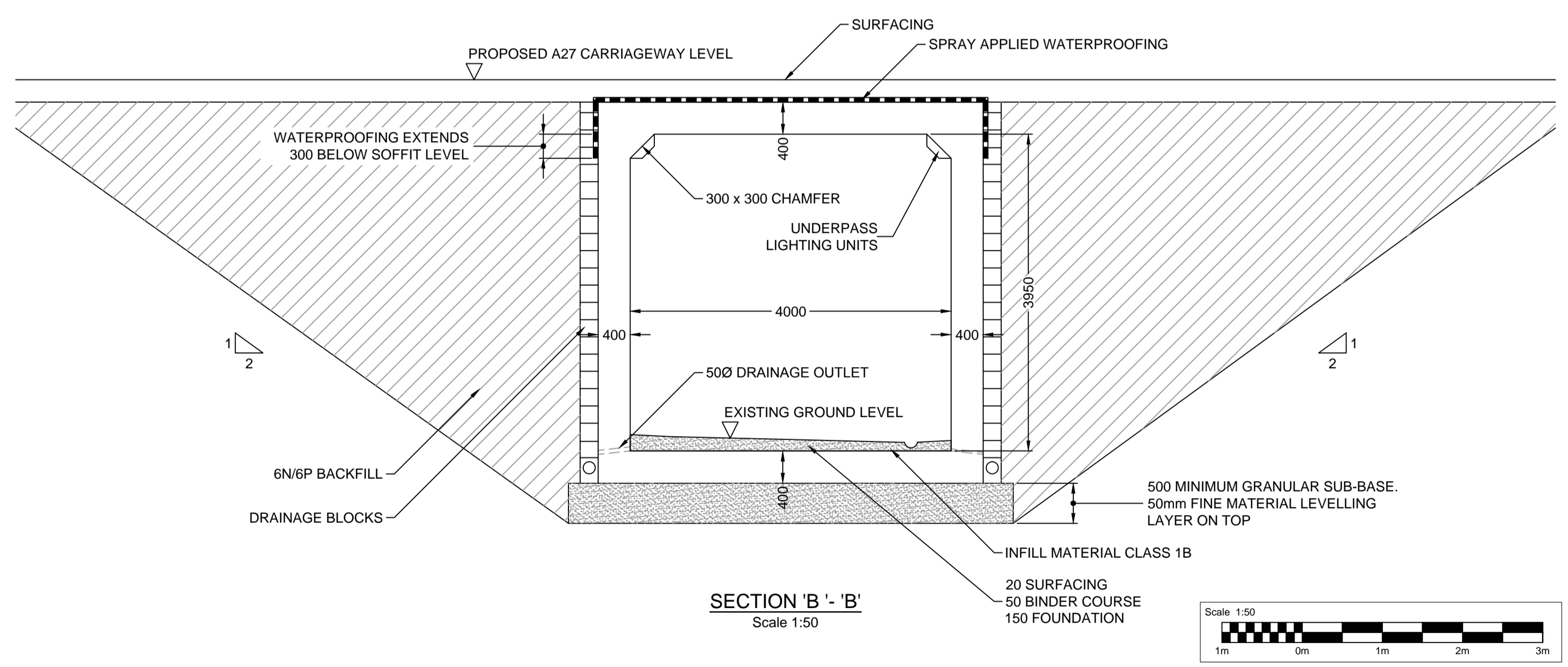
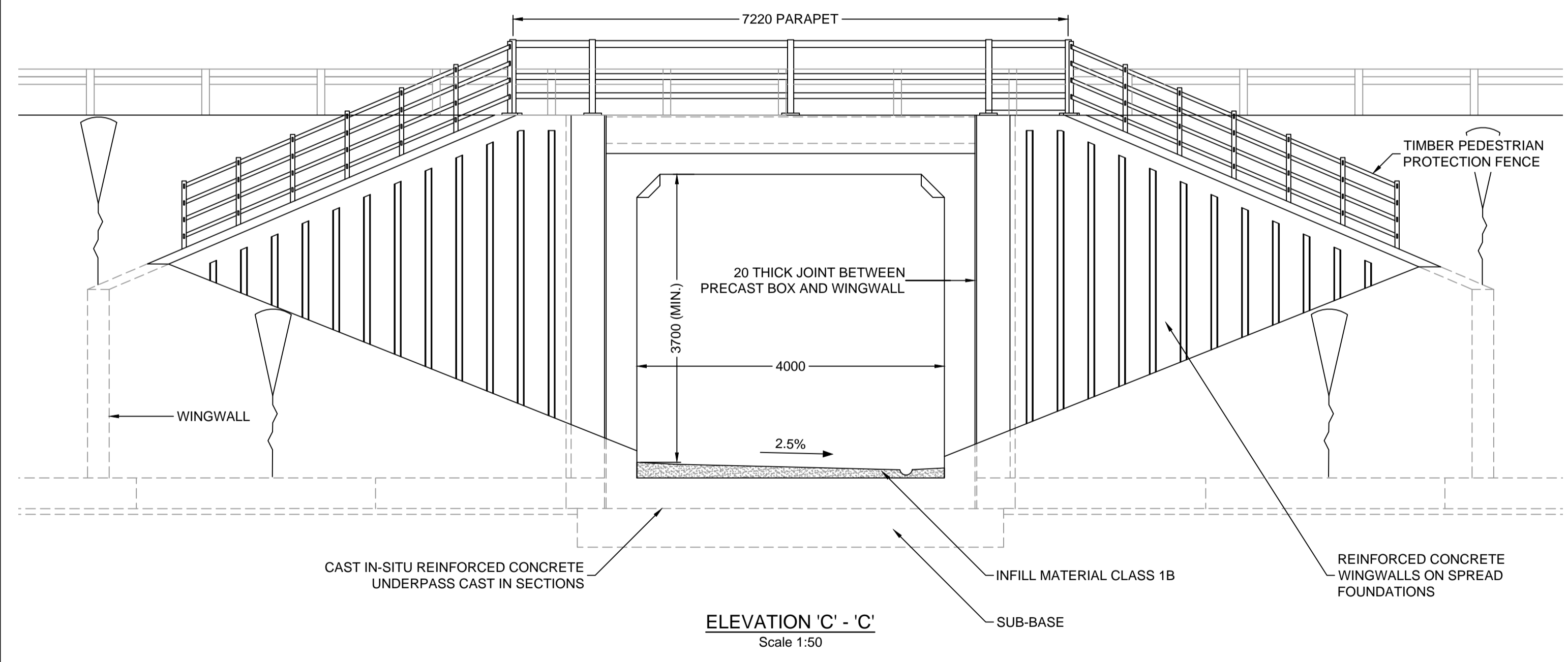
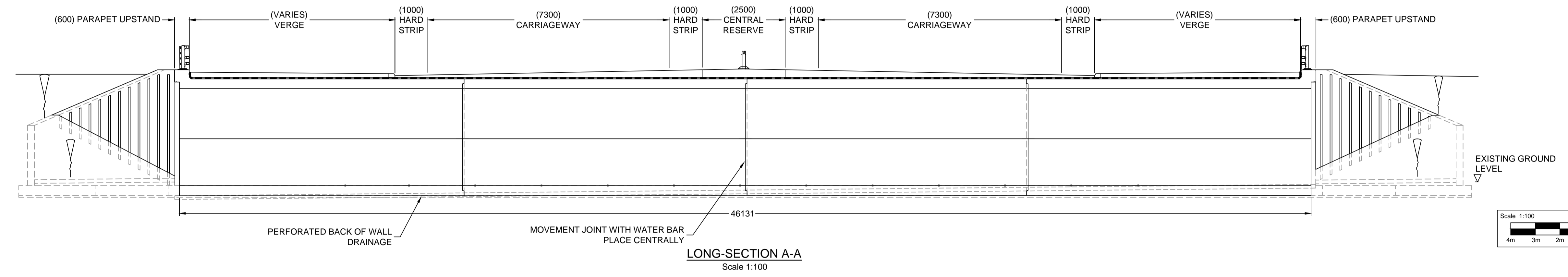
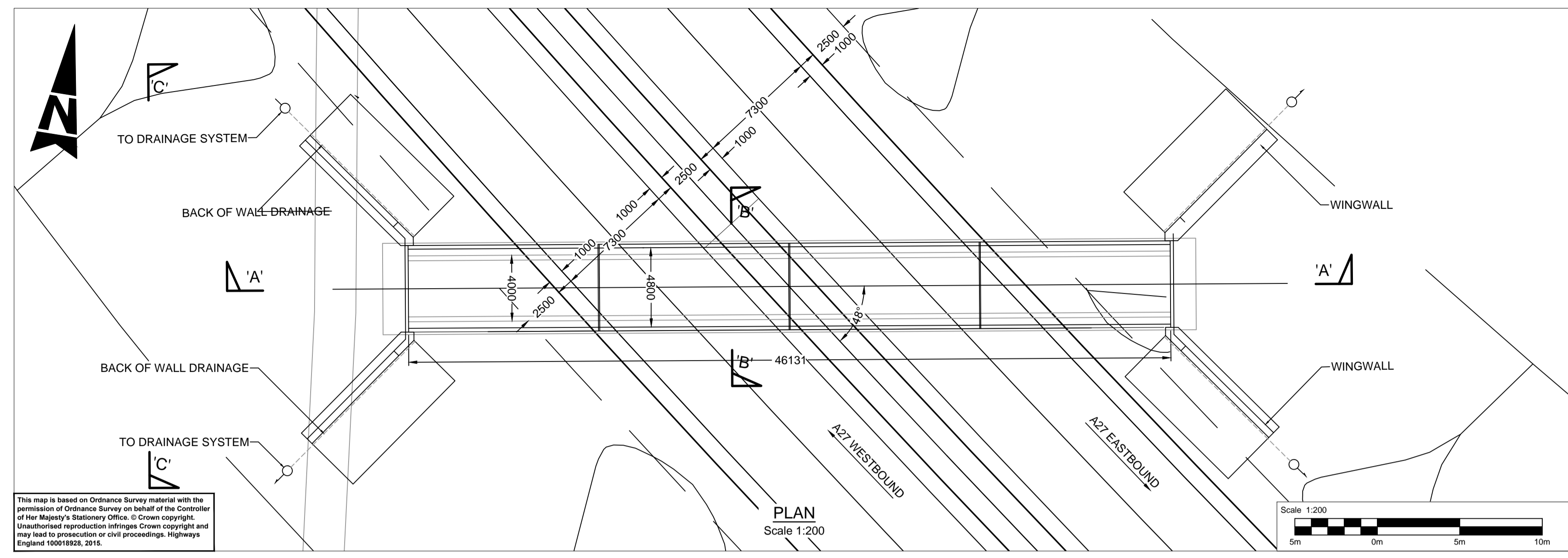


- NOTES:**
- THESE DRAWINGS HAVE BEEN PREPARED TO AID WITH THE PCF STAGE 1 COST ESTIMATION OF THE PROPOSED OPTIONS FOR THE A27 ARUNDEL BYPASS.
 - DO NO SCALE OFF THIS DRAWING. USE STATED DIMENSIONS ONLY
 - REFER TO DRAWING HE551523-WSP-SGN-A27AR-DR-S-0001 FOR STRUCTURE LOCATIONS.
 - ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
 - ALL LEVELS ARE IN METRES AND ARE ABOVE ORDNANCE DATUM UNLESS NOTED OTHERWISE.
 - NO SERVICE INFORMATION IS CURRENTLY SHOWN.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION						
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).						
Construction						
Maintenance / Cleaning						
Use						
Decommissioning / Demolition						
Rev.	Date	Description	By	Chkd	App'd	
P01	19/05/16	First Issue		TC	BH	BS

Drawing Status		S2		Project Title							
FOR INFORMATION		S2		REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS							
 		Westbrook Mills Borough Road Godalming Surrey GU7 2AZ Tel: +44 (0)1483 528400 Fax: +44 (0)1483 528989 www.wsp-pb.co.uk		Drawing Title WESTERN TIE-IN OVERBRIDGE GENERAL ARRANGEMENT							
Client	Working on behalf of	Scale	AS SHOWN	Drawn	TC	Checked	BH	Approved	BS	Authorised	---
		Original Size	A1	Date	11/05/16	Date	11/05/16	Date	19/05/16	Date	---
		Drawing Number	Project		HE551523 - WSP - SBR - A27AR - DR - S - 0002		Project Ref. No.		3514447G		
		Location	Type	Role	Number	Revision		P01			

DO NOT SCALE



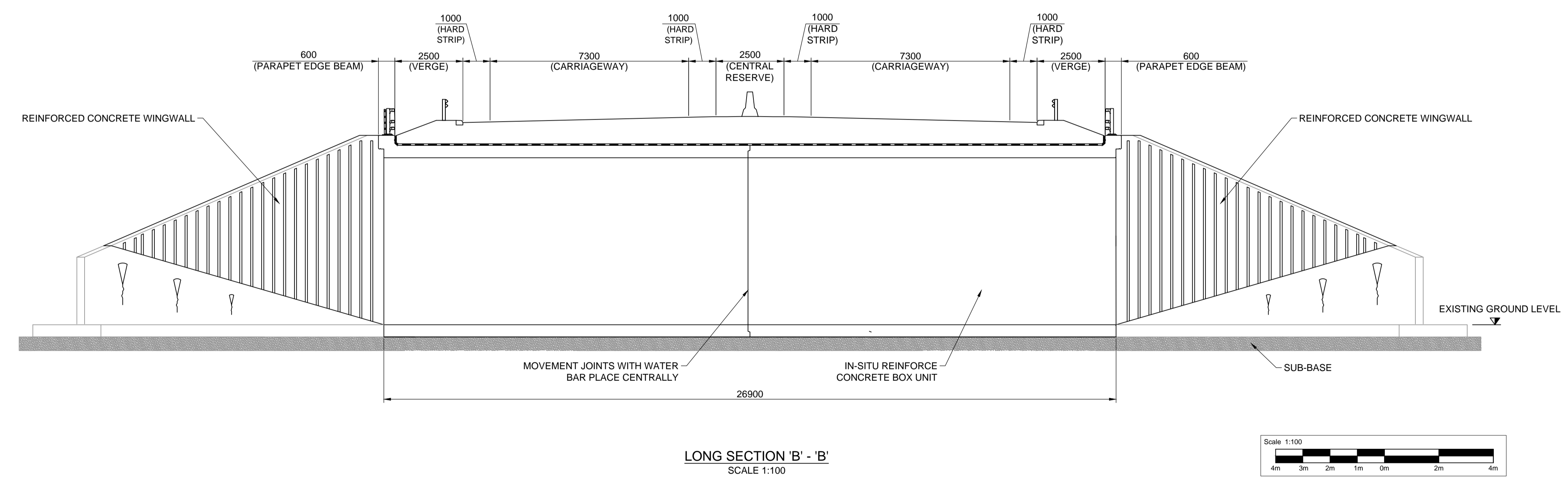
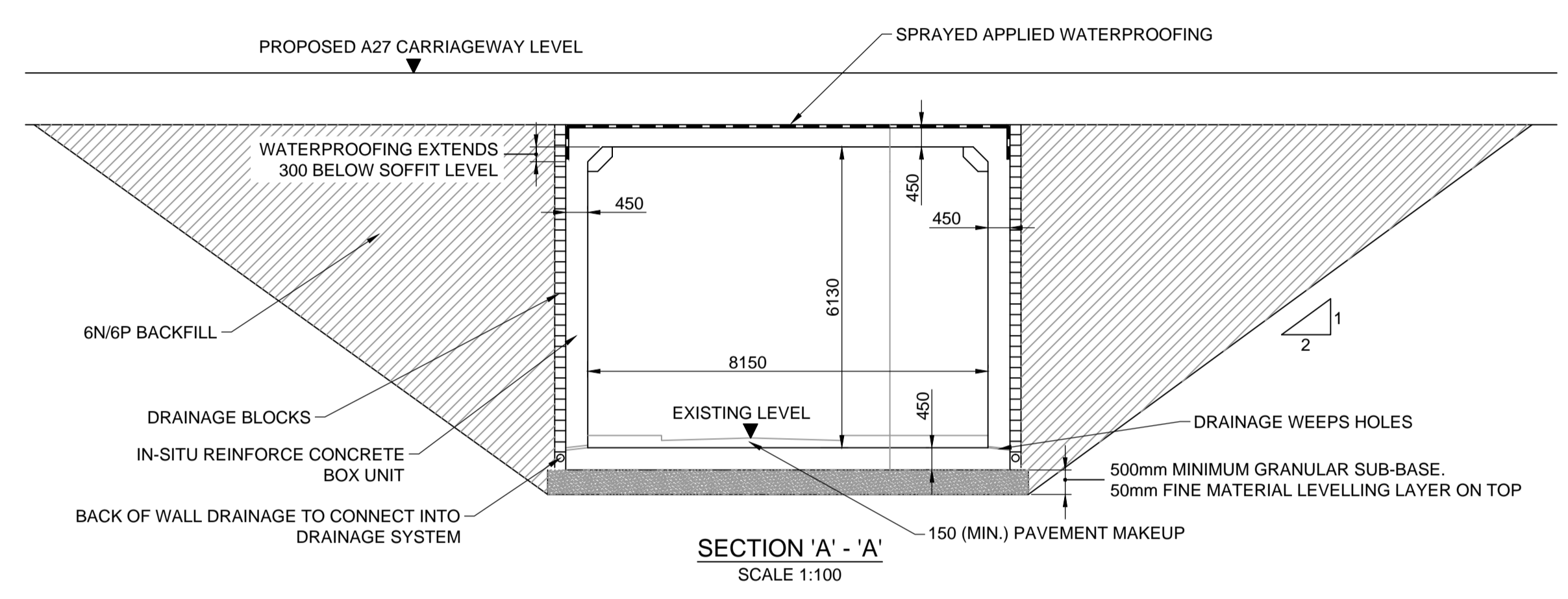
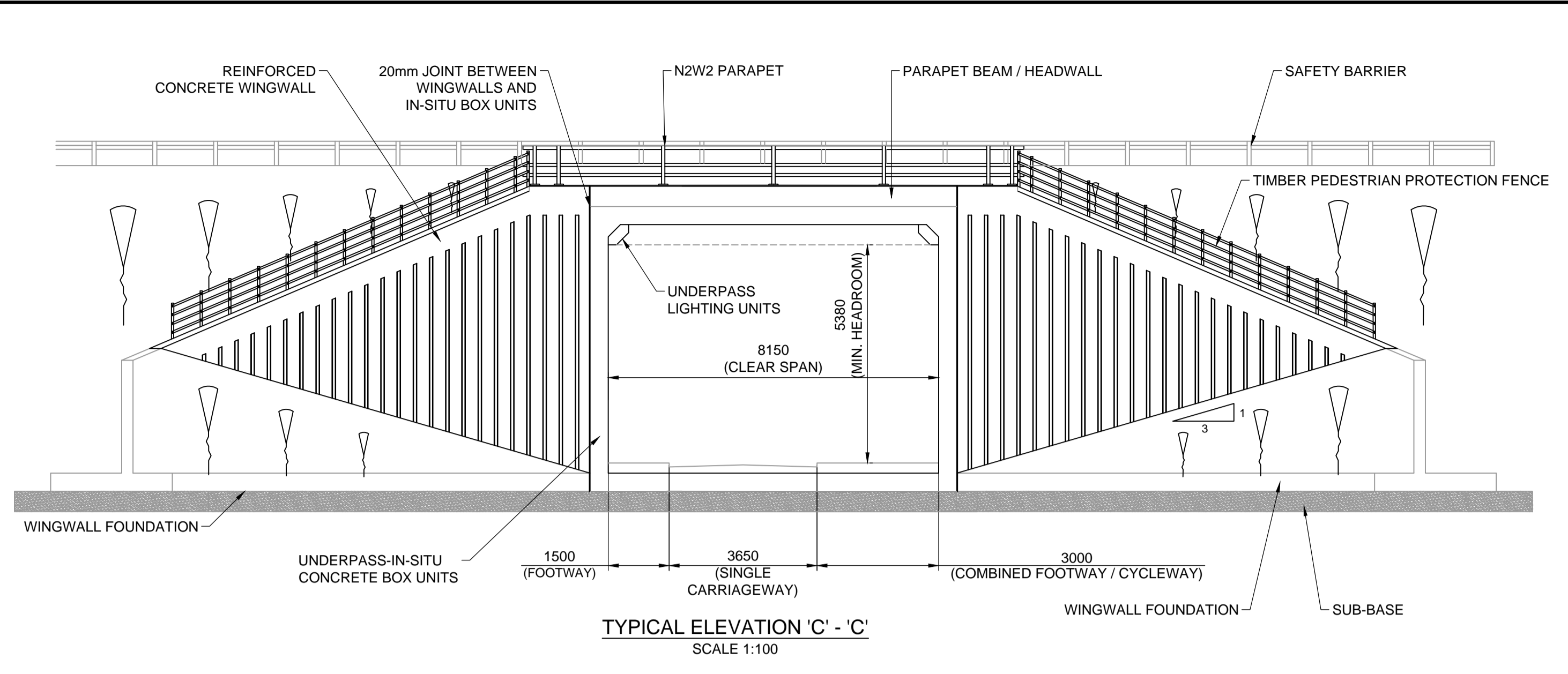
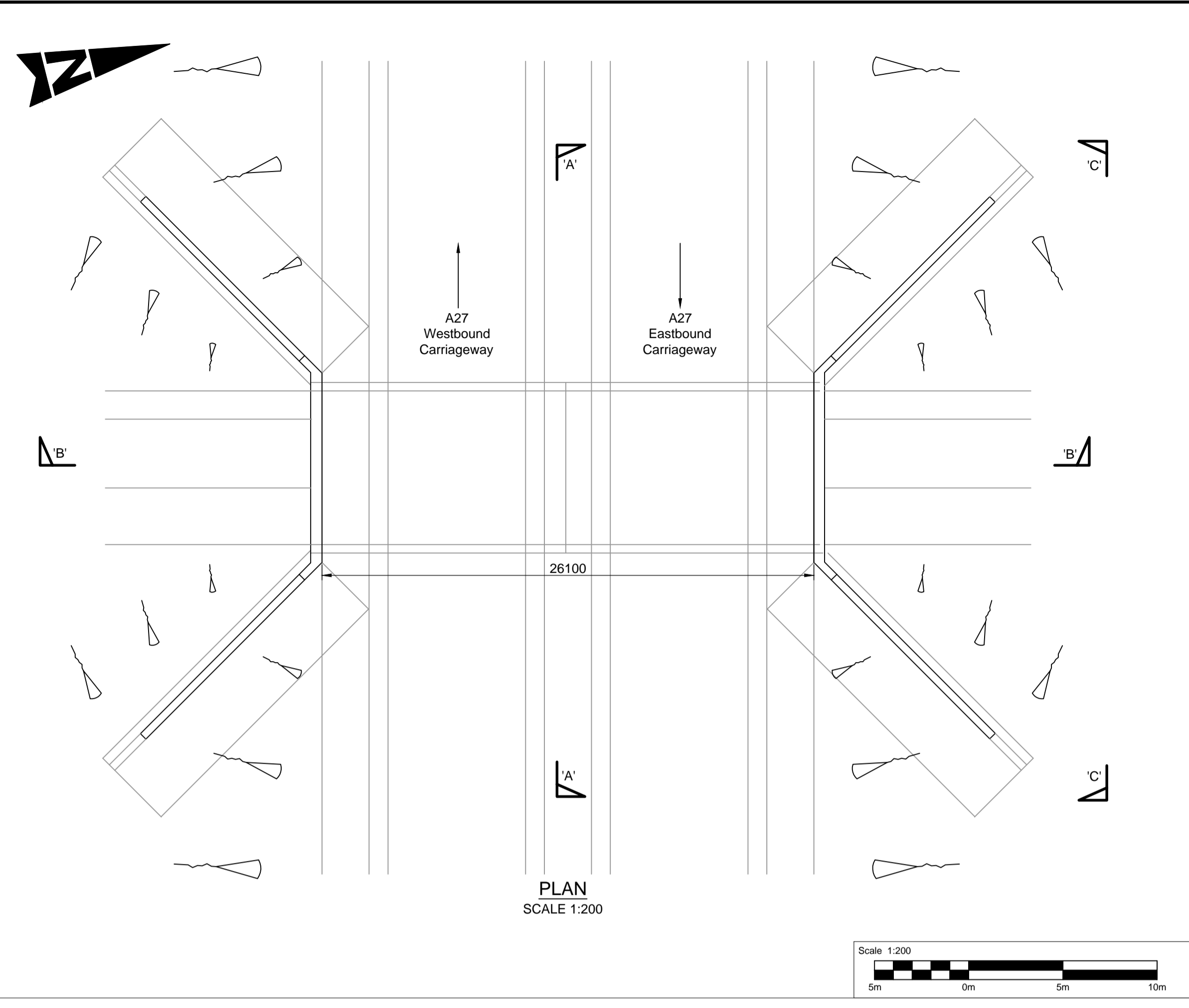
- NOTES:**
- THESE DRAWINGS HAVE BEEN PREPARED TO AID WITH THE PCF STAGE 1 COST ESTIMATION OF THE PROPOSED OPTIONS FOR THE A27 ARUNDEL BYPASS.
 - DO NOT SCALE OFF THIS DRAWING, USE STATED DIMENSIONS.
 - REFER TO DRAWING HE551523-WSP-SGN-A27AR-DR-S-0001 FOR STRUCTURE LOCATIONS.
 - ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE (DIMENSIONS IN BRACKETS ARE SQUARE DIMENSIONS).
 - ALL LEVELS ARE IN METRES AND ARE ABOVE ORDNANCE DATUM UNLESS NOTED OTHERWISE.
 - NO SERVICE INFORMATION IS CURRENTLY SHOWN.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION						
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).						
Construction						
Maintenance / Cleaning						
Use						
Decommissioning / Demolition						
Rev.	Date	Description	By	CHK'd	App'd	
P01	19/05/16	First Issue				

Drawing Status		Subsidiary		Project Title									
FOR INFORMATION		S2		REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS									
		Westbrook Mills Borough Road Godalming Surrey GU7 2AZ Tel: +44 (0)1483 528400 Fax: +44 (0)1483 528989 www.wsp-pb.co.uk		Drawing Title									
				PROW UNDERPASS 4 OPTION 5A GENERAL ARRANGEMENT									
Client		Working on behalf of		Scale		Drawn		Checked		Approved		Authorised	
				AS SHOWN		TC		BH		BS		---	
Project		HE551523 - WSP - SBR - A27AR - DR - S - 0003		Date		Date		Date		Date		Date	
				11/05/16		11/05/16		19/05/16				Project Ref. No. 3514447G	
Location		Type		Role		Number		Revision		P01			

DO NOT SCALE

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10
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Millimetres



NOTES:

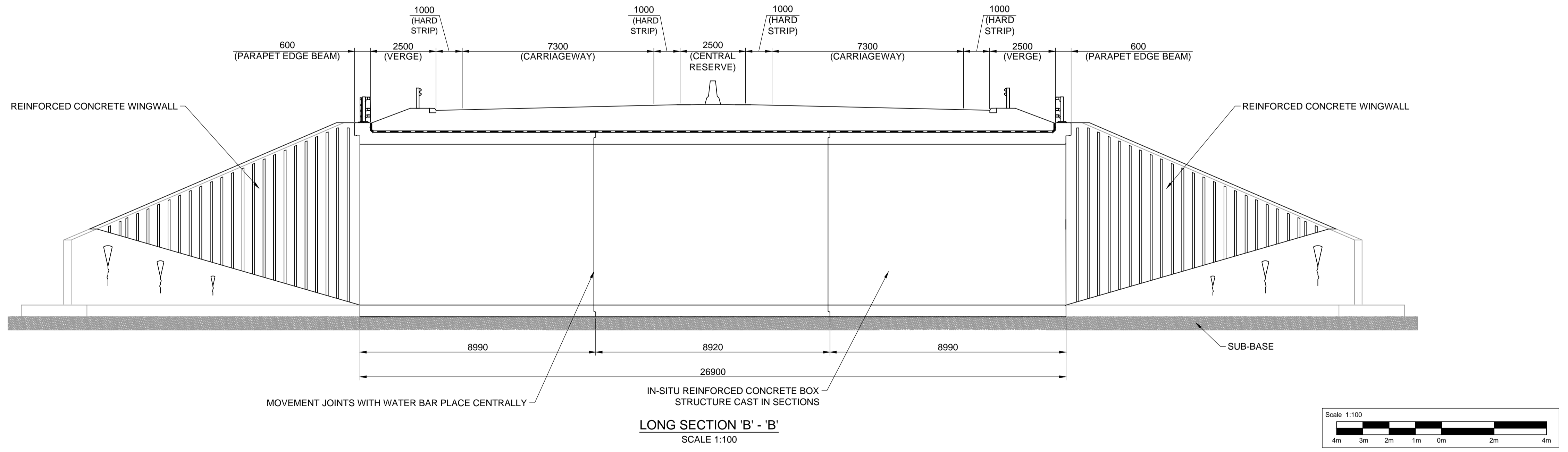
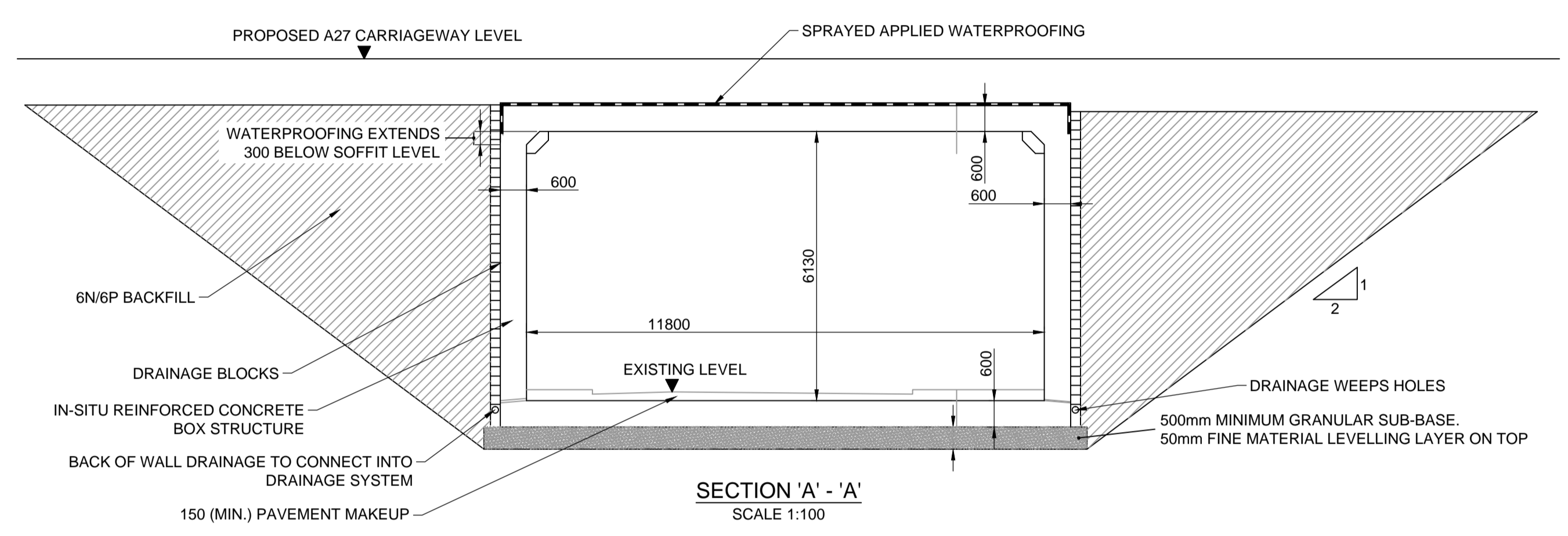
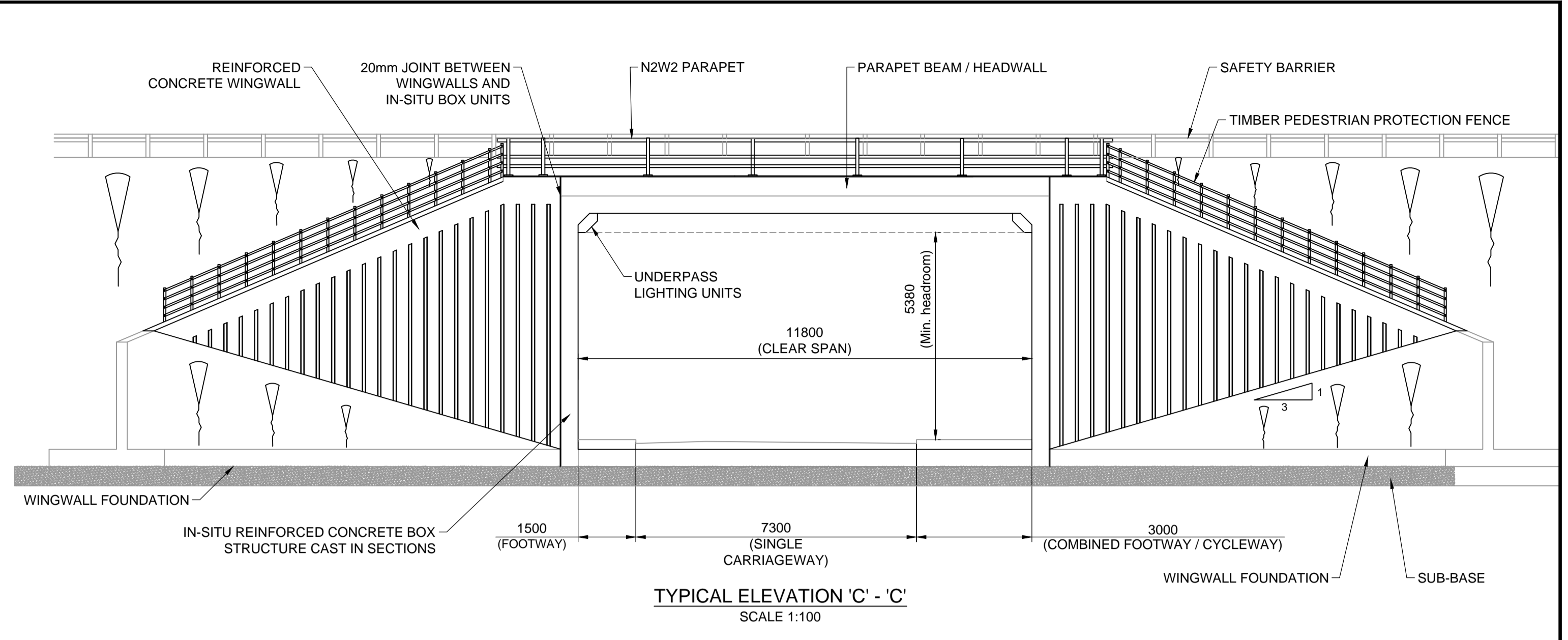
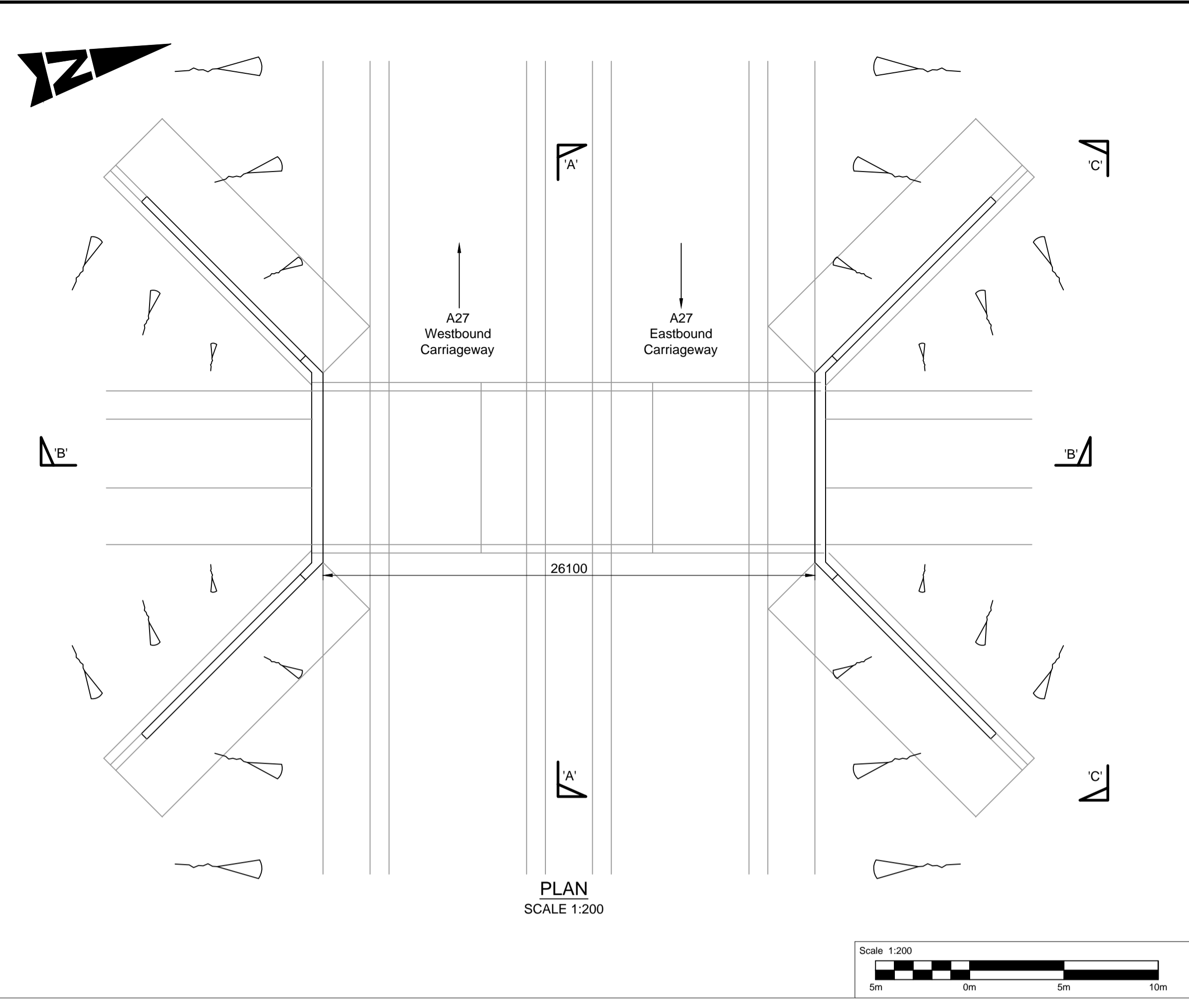
- THESE DRAWINGS HAVE BEEN PREPARED TO AID WITH THE PCF STAGE 1 COST ESTIMATION OF THE PROPOSED OPTIONS FOR THE A27 ARUNDEL BYPASS.
- DO NOT SCALE OFF THIS DRAWING, USE STATED DIMENSIONS ONLY.
- REFER TO DRAWING HE551523-WSP-SGN-A27AR-DR-S-0001 FOR STRUCTURE LOCATIONS.
- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
- ALL LEVELS ARE IN METRES AND ARE ABOVE ORDNANCE DATUM UNLESS NOTED OTHERWISE.
- NO SERVICE INFORMATION IS CURRENTLY SHOWN.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION						
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).						
Construction						
Maintenance / Cleaning						
Use						
Decommissioning / Demolition						
Rev.	Date	Description	By	Chkd	App'd	
P01	19/05/16	First Issue		TC	BH	BS

Drawing Status		S2		Project Title		REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS	
FOR INFORMATION		S2		Drawing Title		BINSTEAD LANE 2 UNDERBRIDGE GENERAL ARRANGEMENT	
 		Westbrook Mills Borough Road Godalming Surrey GU7 2AZ Tel: +44 (0)1483 528400 Fax: +44 (0)1483 528989 www.wsp-pb.co.uk		Scale		AS SHOWN	
Client		Working on behalf of		Drawn		TC	
		Date 11/05/16		Checked		BH	
Project		HE551523 - WSP - SBR - A27AR - DR - S - 0004		Approved		BS	
Location		Type		Date		19/05/16	
Project Ref. No.		3514447G		Authorised		---	
Revision		P01		Date		---	

DO NOT SCALE

100
0 10
Millimetres



- NOTES:**
- THESE DRAWINGS HAVE BEEN PREPARED TO AID WITH THE PCF STAGE 1 COST ESTIMATION OF THE PROPOSED OPTIONS FOR THE A27 ARUNDEL BYPASS.
 - DO NOT SCALE OFF THIS DRAWING, USE STATED DIMENSIONS ONLY.
 - REFER TO DRAWING HE551523-WSP-SGN-A27AR-DR-S-0001 FOR STRUCTURE LOCATIONS.
 - ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
 - ALL LEVELS ARE IN METRES AND ARE ABOVE ORDNANCE DATUM UNLESS NOTED OTHERWISE.
 - NO SERVICE INFORMATION IS CURRENTLY SHOWN.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION			
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).			
Construction (Enter "None" if applicable)			
Maintenance / Cleaning (Enter "None" if applicable)			
Use (Enter "None" if applicable)			
Decommissioning / Demolition (Enter "None" if applicable)			
PO1	19/05/16	First Issue	TC BH BS
Rev.	Date	Description	By Chk'd App'd

FOR INFORMATION

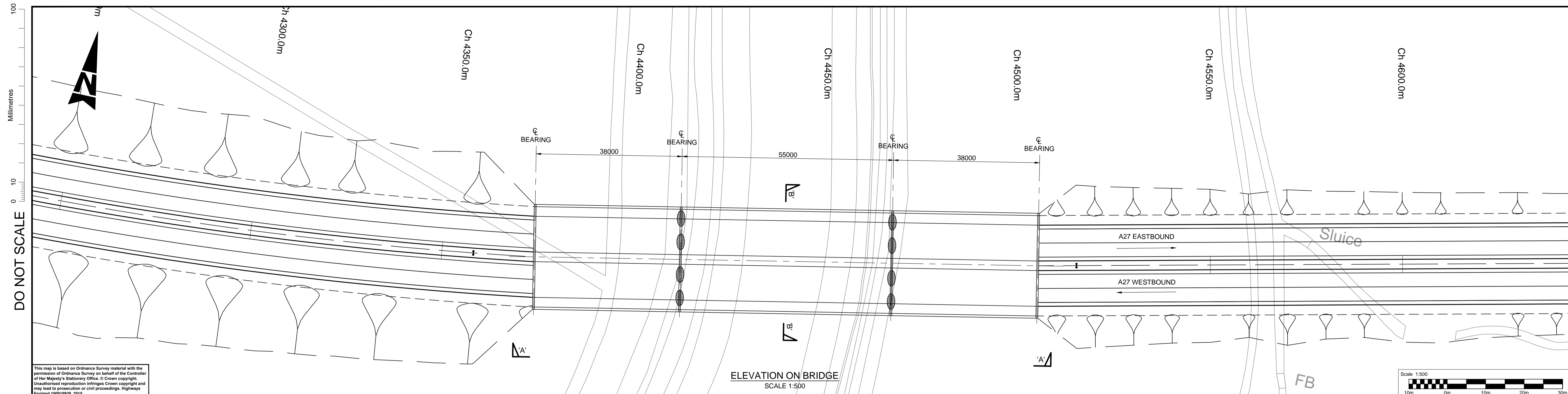
WSP
PARSONS BRINCKERHOFF

Westbrook Mills
Borough Road
Godalming
Surrey
GU7 2AZ
Tel: +44 (0)1483 528400
Fax: +44 (0)1483 528989
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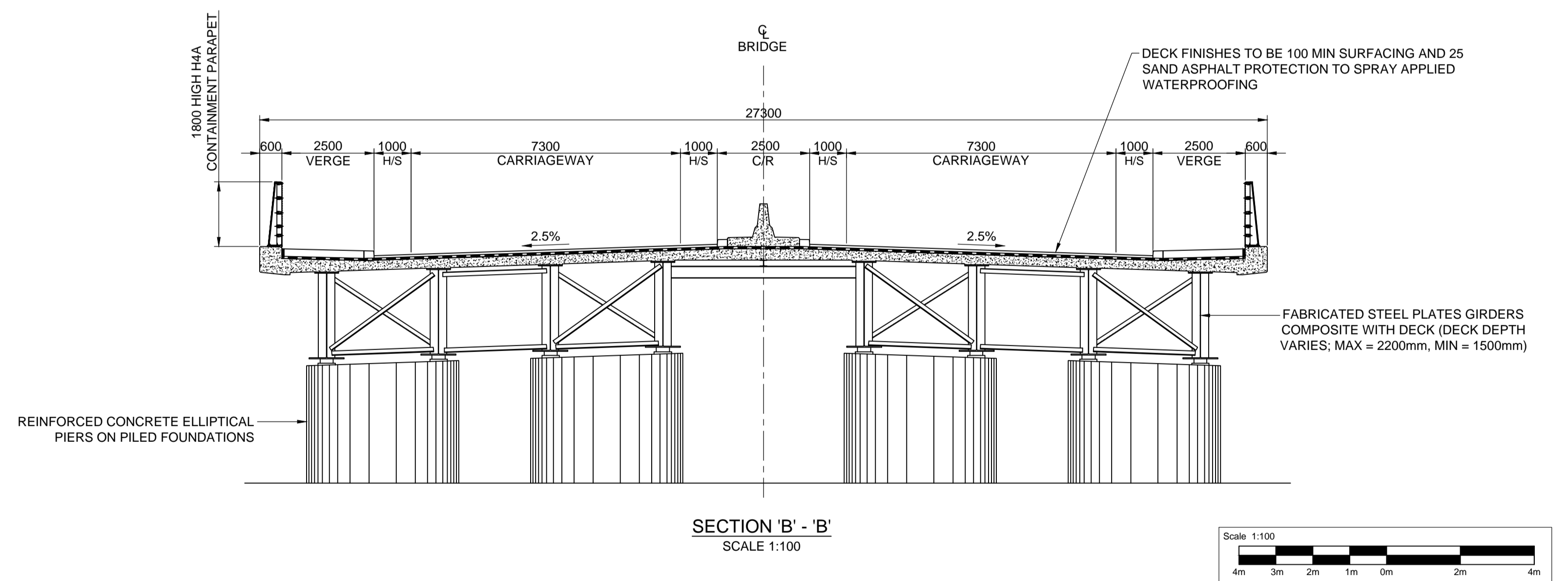
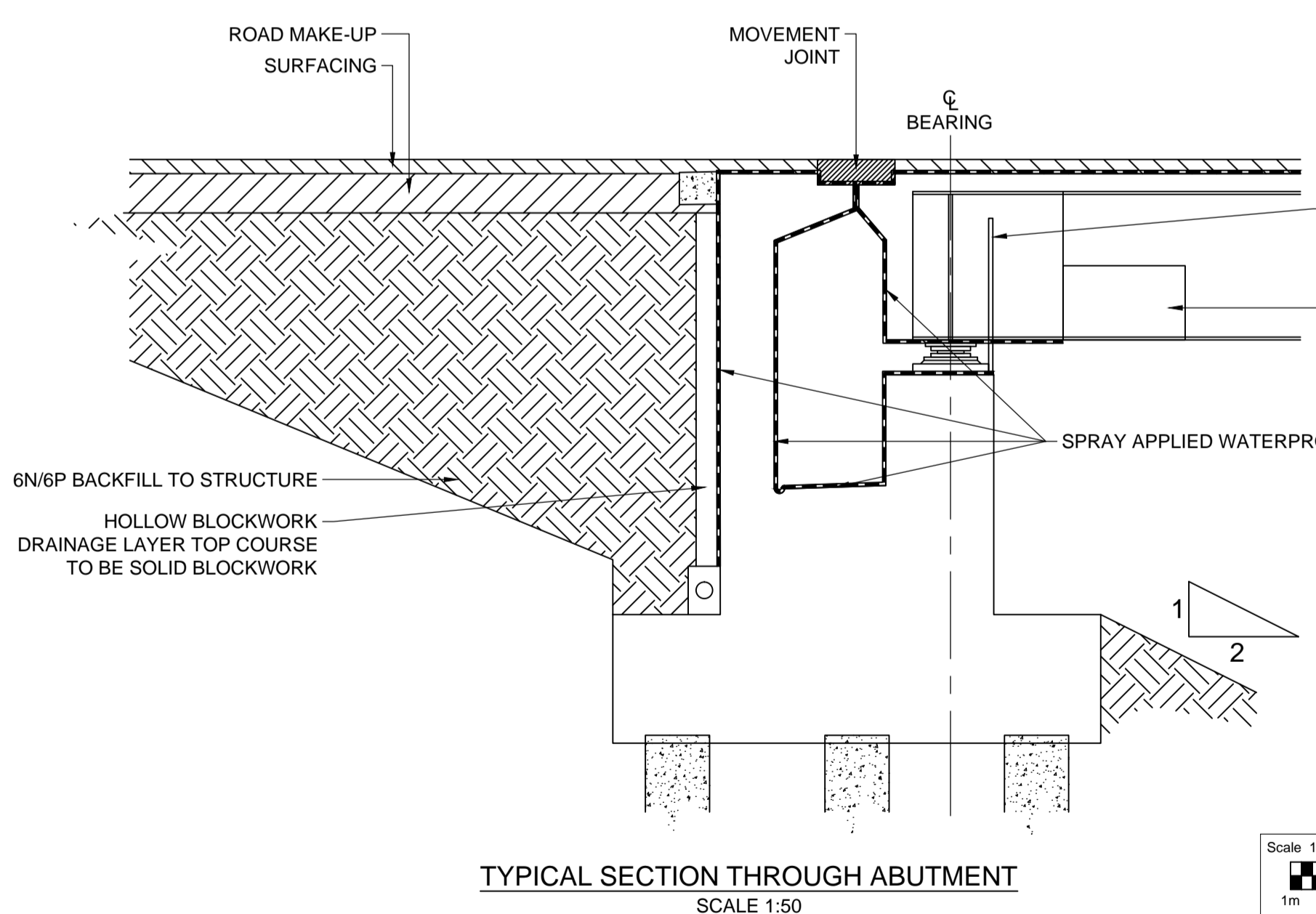
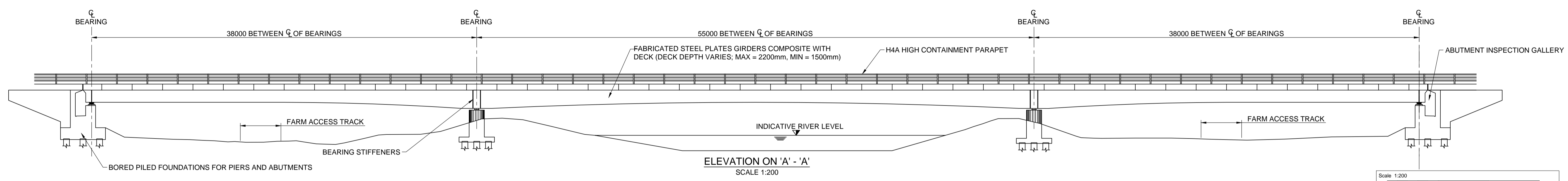
Working on behalf of
highways england

Project Title		REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS			
Drawing Title		FORD ROAD UNDERBRIDGE GENERAL ARRANGEMENT			
Scale	AS SHOWN	Drawn	TC	Checked	BH
Original Size	A1	Date	11/05/16	Date	11/05/16
Approved	BS	Date	19/05/16	Authorised	---
Project Ref. No.	HE551523 - WSP - SBR - A27AR - DR - S - 0005				
Revision	P01				



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 - DO NOT SCALE OFF THIS DRAWING, USE STATED DIMENSIONS ONLY.
 - REFER TO DRAWING HE551523-WSP-SGN-A27AR-DR-S-0001 FOR STRUCTURE LOCATIONS.
 - ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
 - ALL LEVELS ARE IN METRES AND ARE ABOVE ORDNANCE DATUM UNLESS NOTED OTHERWISE.
 - NO SERVICE INFORMATION IS CURRENTLY SHOWN.
 - FOR SERVICE OPTION 1, THE RIVER ARUN WESTBOUND BRIDGE IS SIMILAR TO THE STRUCTURE SHOWN ON THIS DRAWING. HOWEVER, IT IS ONLY REQUIRED TO BE APPROXIMATELY 14 m WIDE AND 115 m LONG (CENTRE SPAN OF 45 m AND THE BACK SPANS OF 35 m).

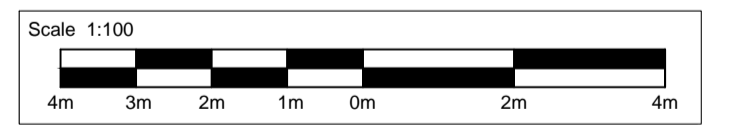
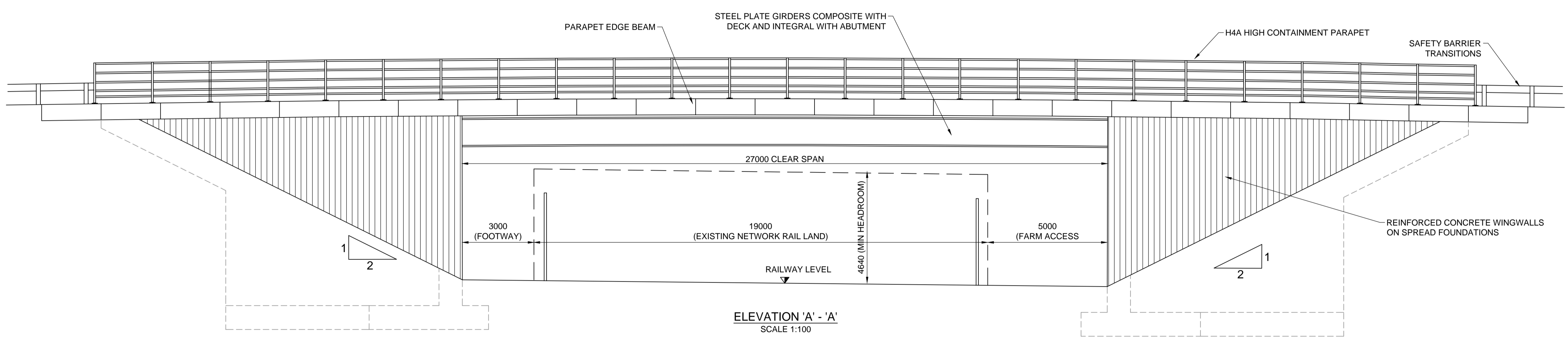
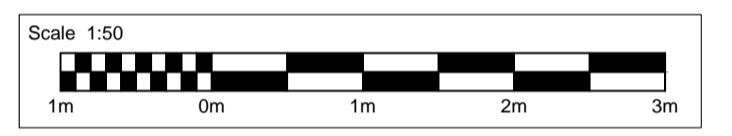
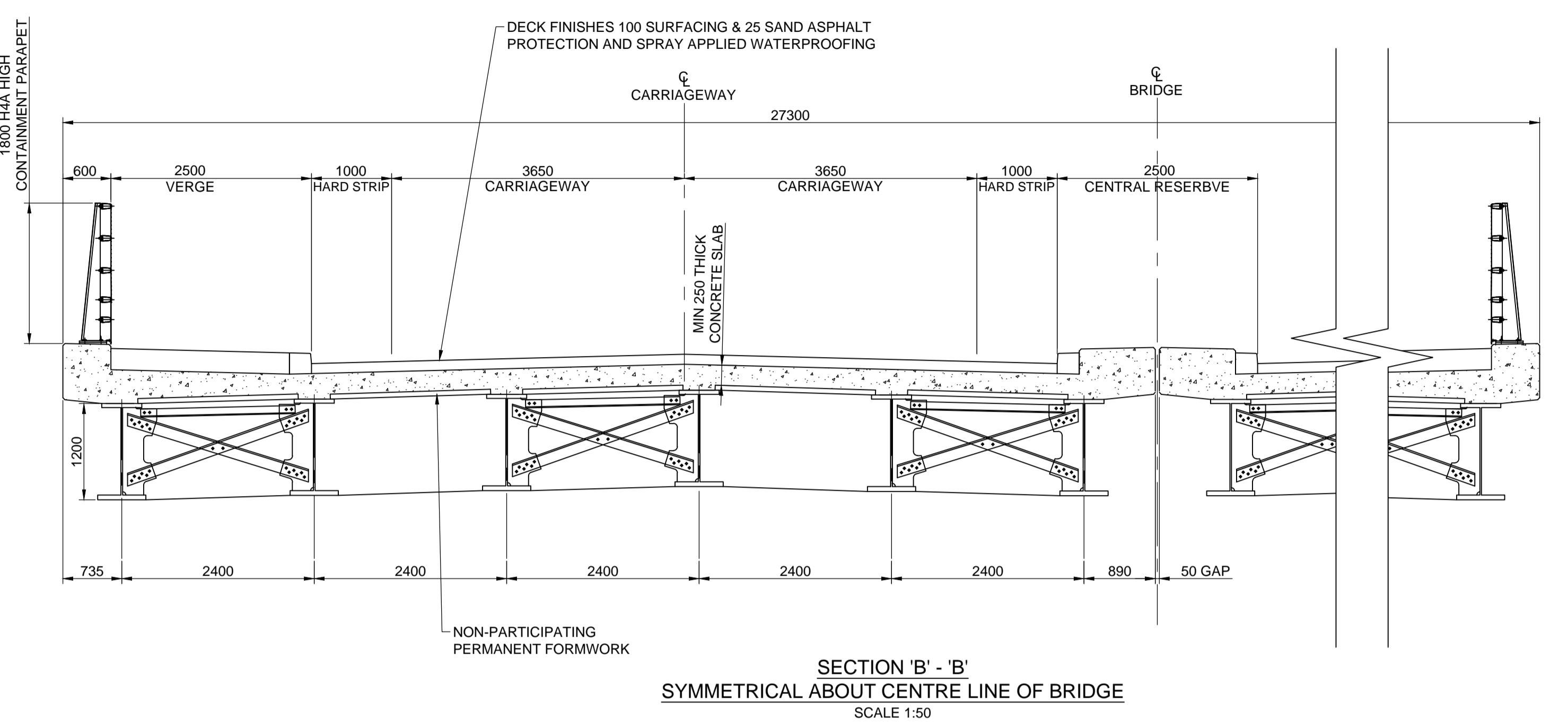
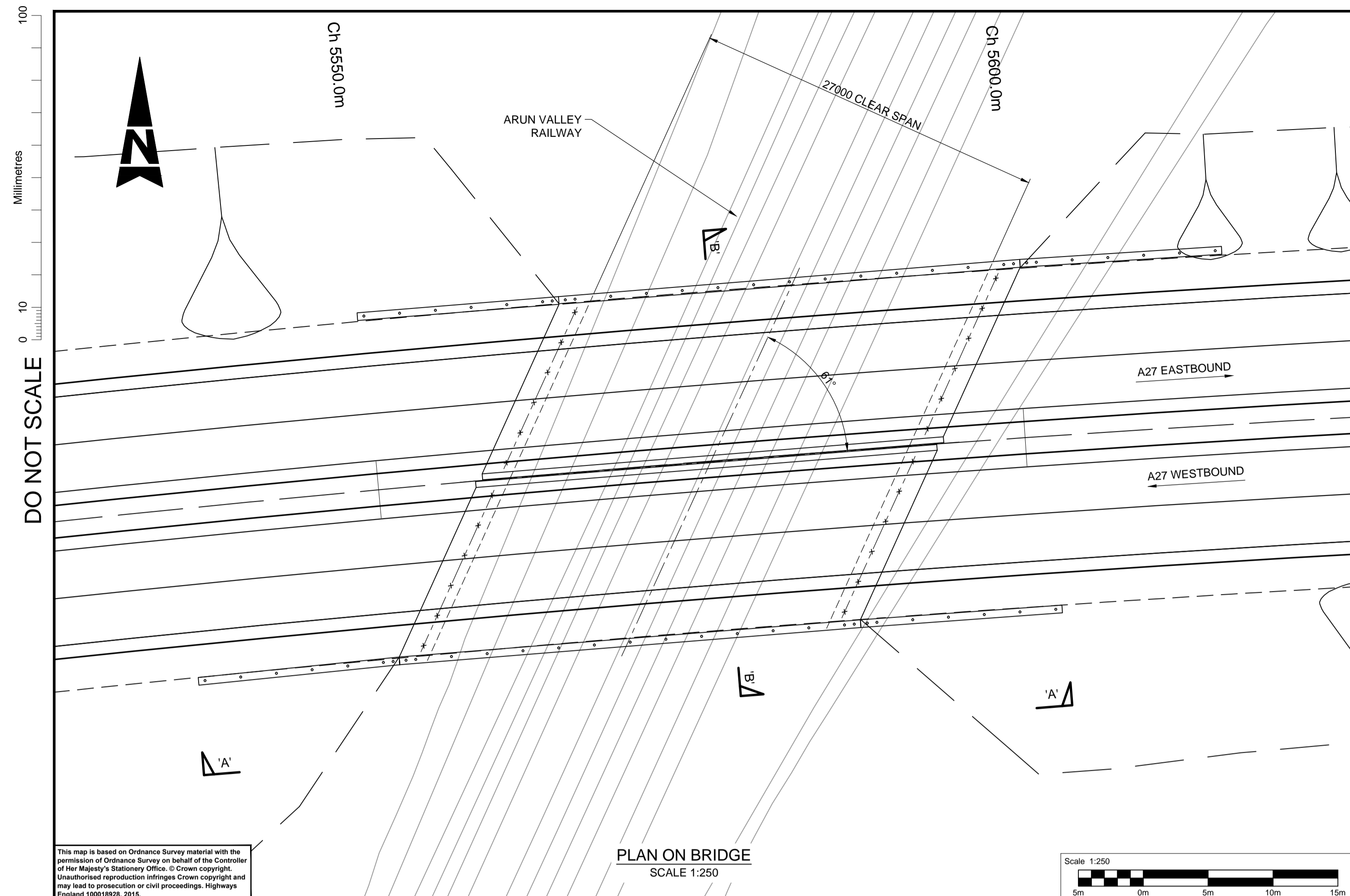
SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction	Limited available headroom - a flood assessment is needed to determine the minimum clearance required during a flood event.
Maintenance / Cleaning	
Use	
Decommissioning / Demolition	

Rev.	Date	Description	By	Chk'd	App'd
P01	19/05/16	First Issue			

Drawing Status	FOR INFORMATION	Suitability	S2	Project Title	REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS								
		Westbrook Mills Borough Road Godalming Surrey GU7 2AZ Tel: +44 (0)1483 528400 Fax: +44 (0)1483 528989 www.wsp-pb.co.uk			Drawing Title RIVER ARUN BRIDGE GENERAL ARRANGEMENT								
Client	Working on behalf of 			Scale	AS SHOWN	Drawn	TC	Checked	BH	Approved	BS	Authorised	---
	Original Size	A1	Date	11/05/16	Date	11/05/16	Date	19/05/16	Date	---	Date	---	---
	Drawing Number	HE551523 - WSP - SBR -		Project Ref. No.	3514447G								
	Project	A27AR - DR - S - 0006		Revision	P01								
	Location	Type	Role	Number									



- NOTES:**
- THESE DRAWINGS HAVE BEEN PREPARED TO AID WITH THE PCF STAGE 1 COST ESTIMATION OF THE PROPOSED OPTIONS FOR THE A27 ARUNDEL BYPASS.
 - DO NOT SCALE OFF THIS DRAWING. USE STATED DIMENSIONS ONLY.
 - REFER TO DRAWING HE551523-WSP-SGN-A27AR-DR-S-0001 FOR STRUCTURE LOCATIONS.
 - ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
 - ALL LEVELS ARE IN METRES AND ARE ABOVE ORDNANCE DATUM UNLESS NOTED OTHERWISE.
 - NO SERVICE INFORMATION IS CURRENTLY SHOWN.
 - FOR OPTION 0A, THE A27 WILL BE A SINGLE CARRIAGEWAY AS EXISTING AND FARM ACCESS IS NOT REQUIRED, THEREFORE THE WIDTH AND CLEAR SPAN CAN BE REDUCED TO APPROXIMATELY 15.5 AND 22 M RESPECTIVELY.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction					
Maintenance / Cleaning					
Use					
Decommissioning / Demolition					

Rev.	Date	Description	By	Chk'd	App'd
P01	19/05/16	First Issue			

Drawing Status: FOR INFORMATION
Suitability: S2

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PARSONS BRINCKERHOFF

Westbrook Mills
Borough Road
Godalming
Surrey
GU7 2AZ
Tel: +44 (0)1483 528400
Fax: +44 (0)1483 528989
www.wsp-pb.co.uk

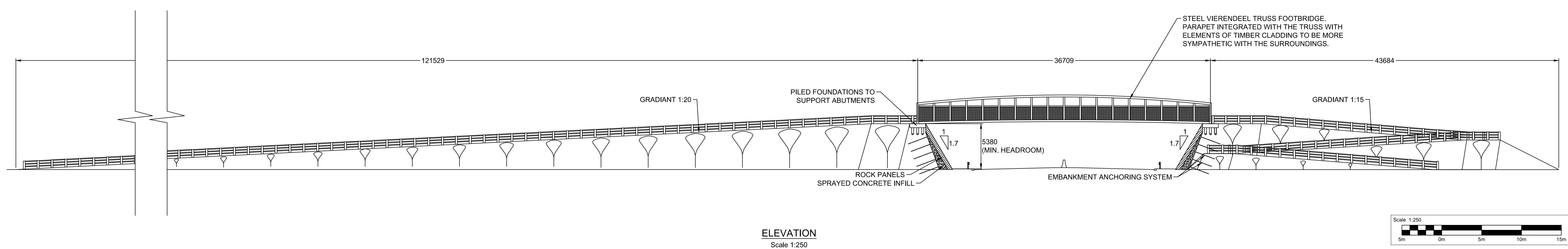
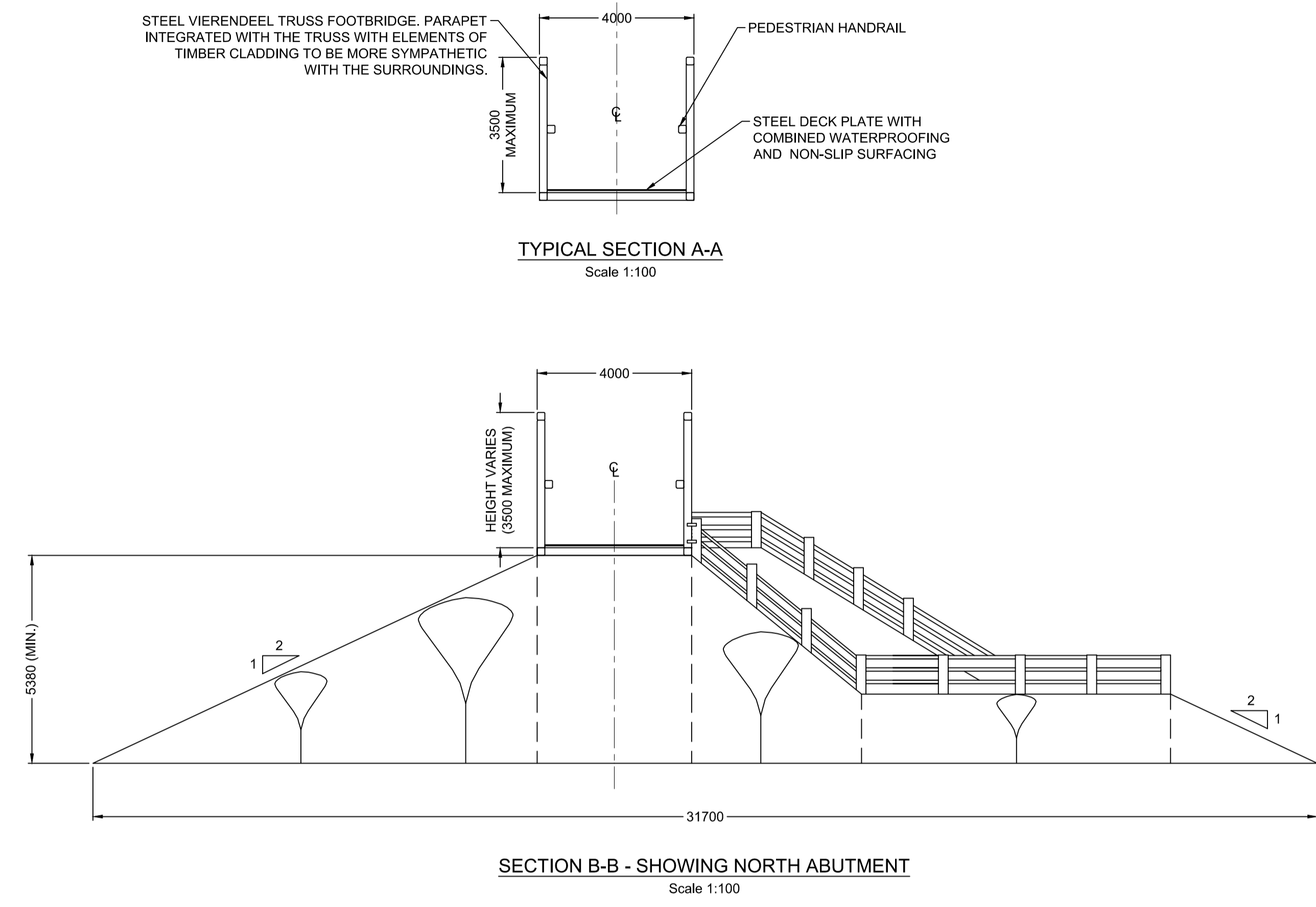
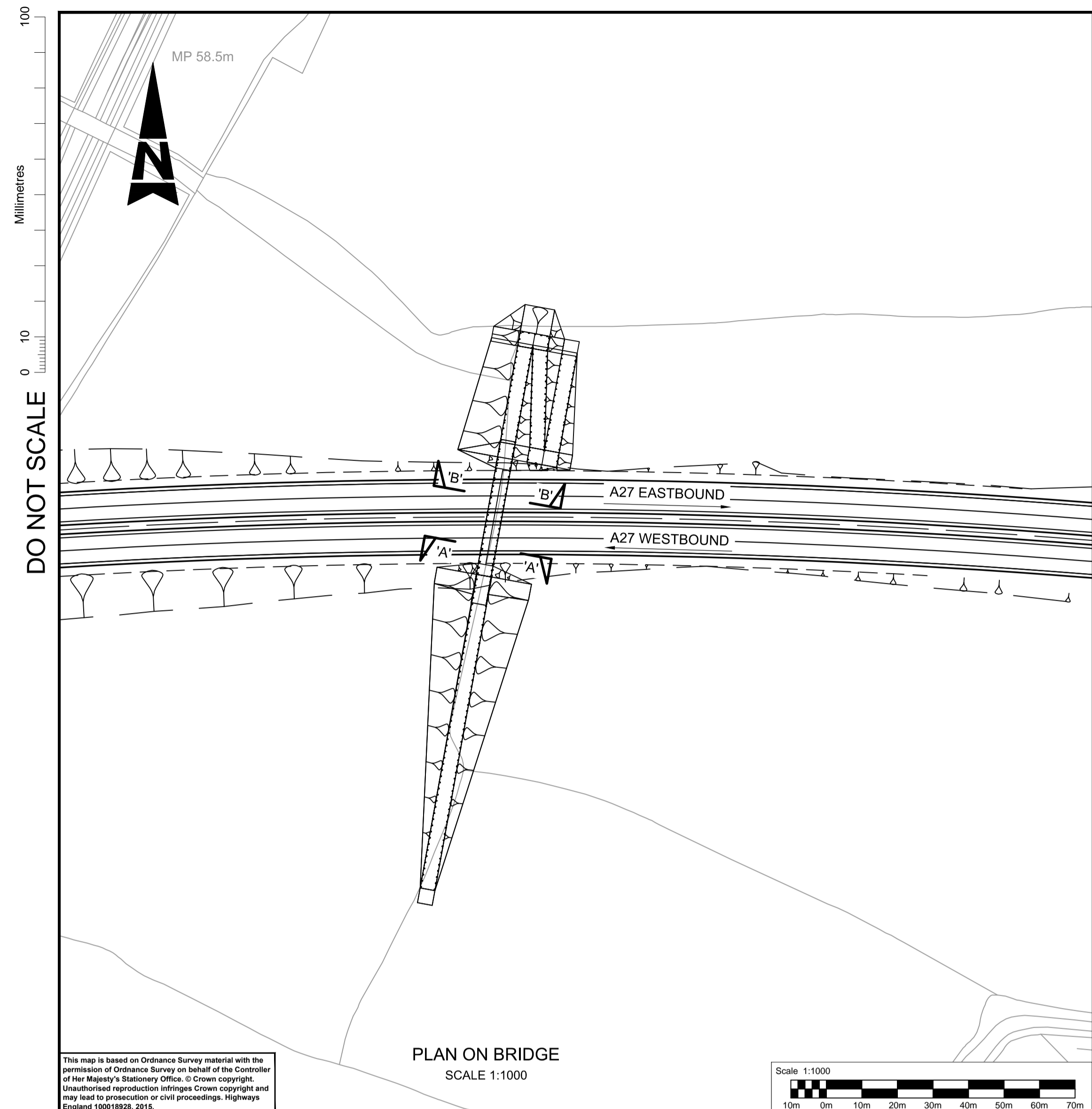
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Client: Working on behalf of **highways england**

REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS

Drawing Title: ARUN VALLEY RAILWAY BRIDGE GENERAL ARRANGEMENT

Scale	1:1	Drawn	TC	Checked	BH	Approved	BS	Authorised	
Original Size	A1	Date	11/05/16	Date	11/05/16	Date	19/05/16	Date	---
Drawing Number	Project		Originator	Volume		Project Ref. No.		Revision	
	HE551523 - WSP - SBR - A27AR - DR - S - 0007					3514447G		P01	
Location	Type	Role	Number						



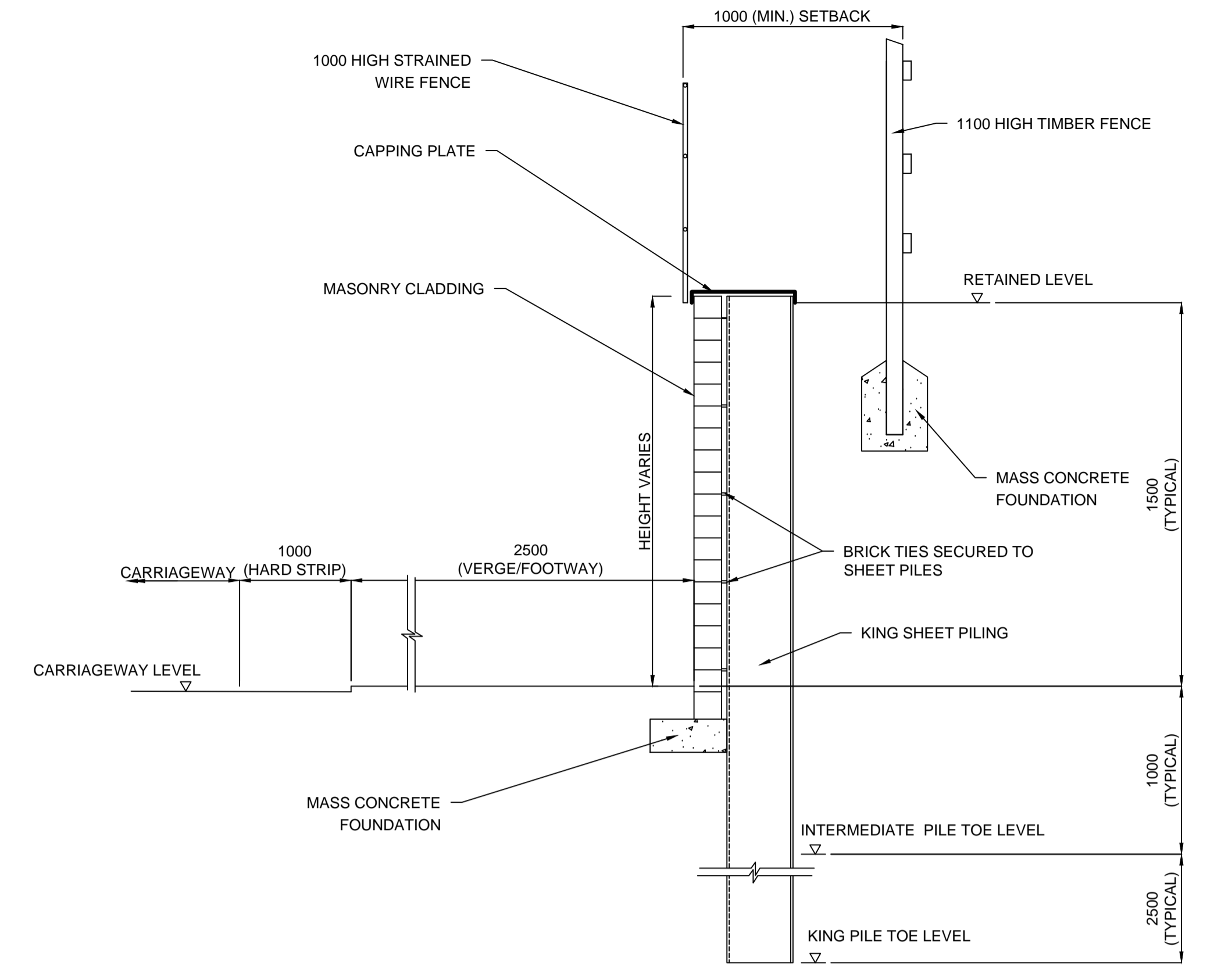
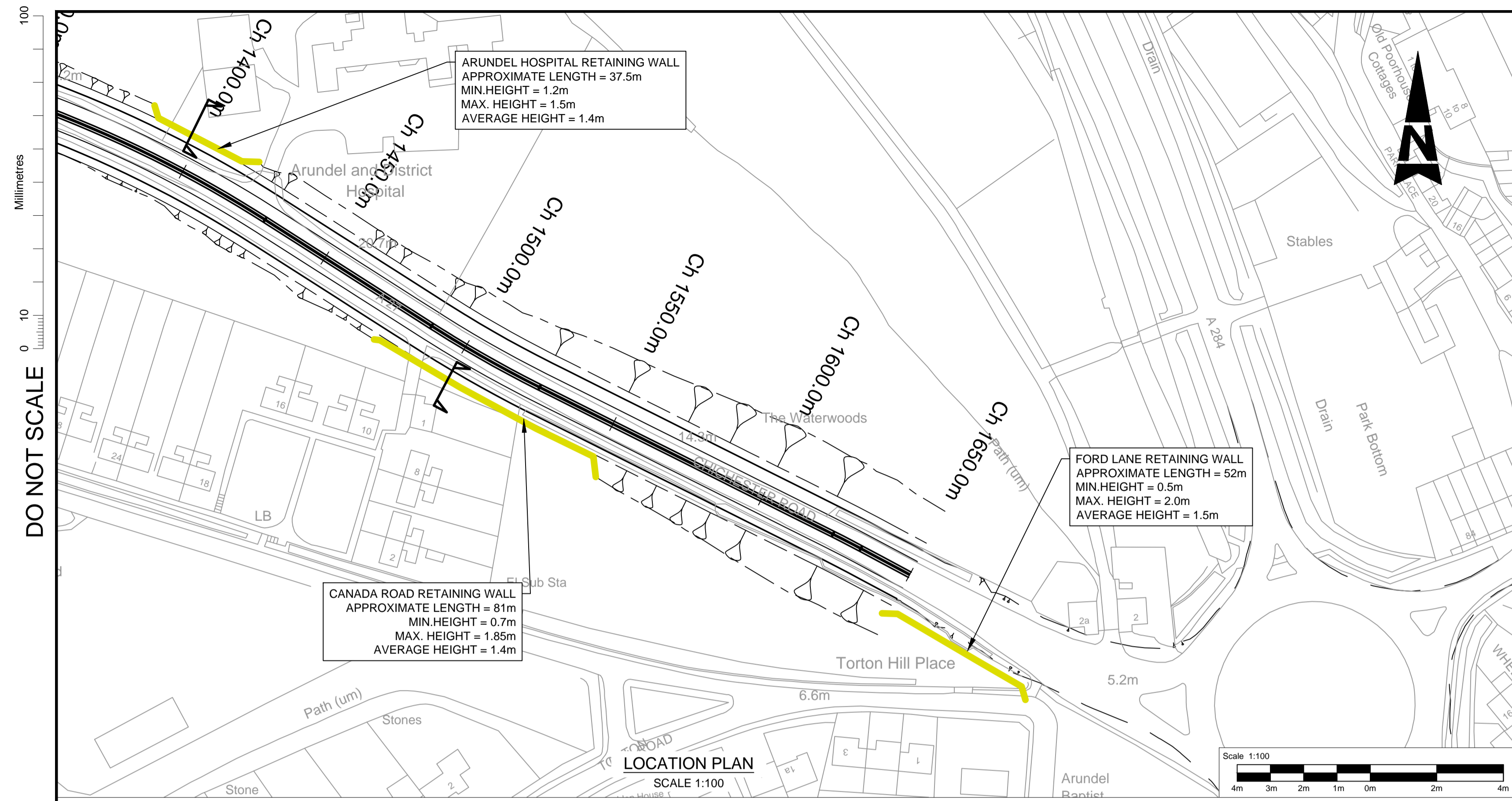
- NOTES:**
- THESE DRAWINGS HAVE BEEN PREPARED TO AID WITH THE PCF STAGE 1 COST ESTIMATION OF THE PROPOSED OPTIONS FOR THE A27 ARUNDEL BYPASS.
 - DO NOT SCALE OFF THIS DRAWING, USE STATED DIMENSIONS ONLY
 - REFER TO DRAWING HE551523-WSP-SGN-A27AR-DR-S-0001 FOR STRUCTURE LOCATIONS.
 - ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
 - ALL LEVELS ARE IN METRES AND ARE ABOVE ORDNANCE DATUM UNLESS NOTED OTHERWISE.
 - NO SERVICE INFORMATION IS CURRENTLY SHOWN.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION						
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).						
Construction						
Maintenance / Cleaning						
Use						
Decommissioning / Demolition						
Rev.	Date	Description	By	Chkd	App'd	
P01	19/05/16	First Issue				

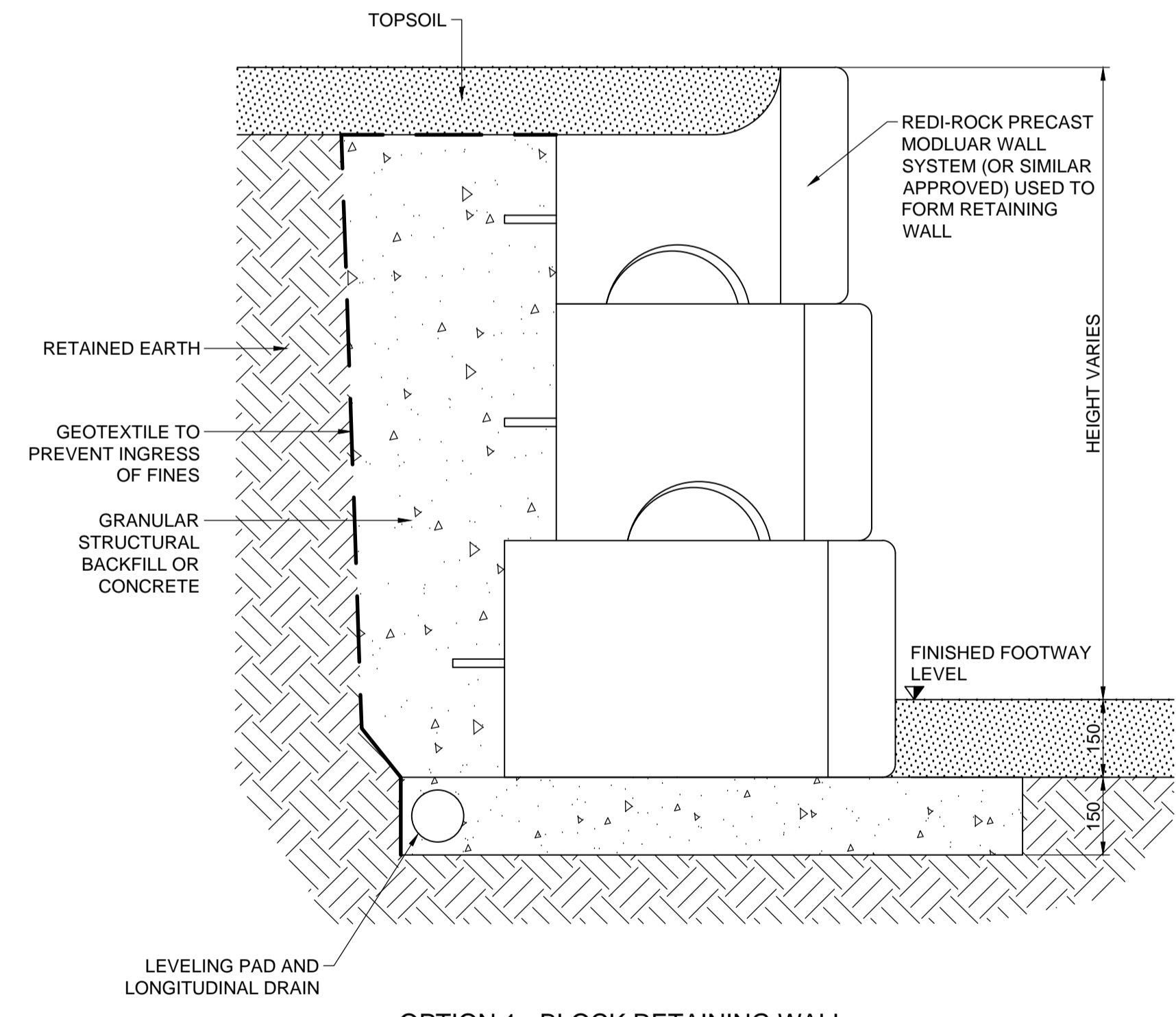
Drawing Status		S2		Project Title		
FOR INFORMATION		S2		REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS		
 		Westbrook Mills Borough Road Godalming Surrey GU7 2AZ Tel: +44 (0)1483 528400 Fax: +44 (0)1483 528989 www.wsp-pb.co.uk		Drawing Title		
				PROW 7 FOOTBRIDGE GENERAL ARRANGEMENT		
Client		Working on behalf of		Scale		
				1:1		
				Drawn		
				TC		
				Checked		
				BH		
				Approved		
				BS		
				Authorised		

				Date		
				11/05/16		
				Date		
				11/05/16		
				Date		
				19/05/16		
				Date		

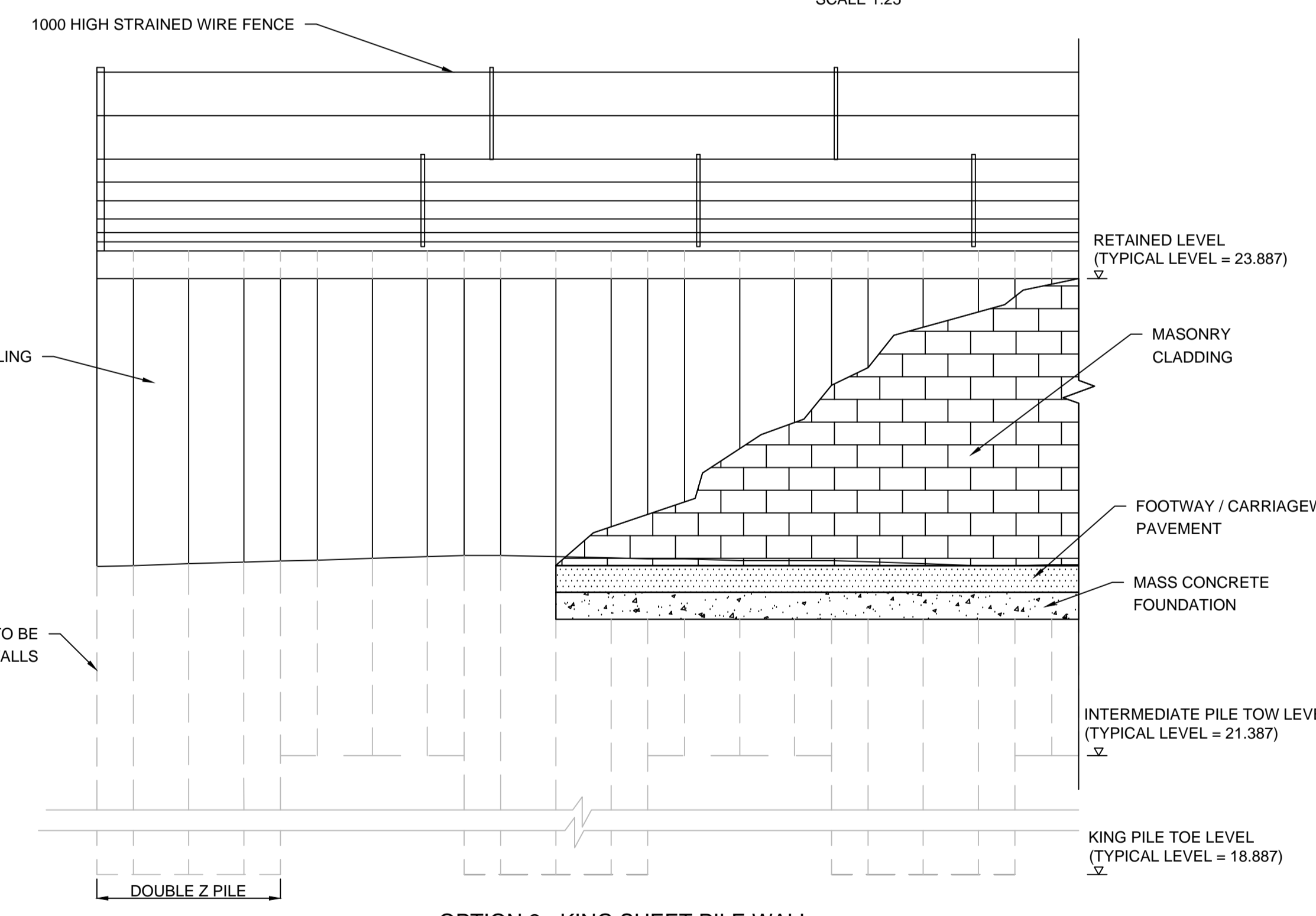
				Project Ref. No.		
				3514447G		
				Revision		
				P01		
				Location		
				Type		
				Role		
				Number		



OPTION 2 - KING SHEET PILED WALL
 (TYPICAL SECTION)
 SCALE 1:25



OPTION 1 - BLOCK RETAINING WALL
 (TYPICAL SECTION)
 SCALE 1:10



OPTION 2 - KING SHEET PILE WALL
 (TYPICAL ELEVATION)
 SCALE 1:25

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- NOTES:**
- THESE DRAWINGS HAVE BEEN PREPARED TO AID WITH THE PCF STAGE 1 COST ESTIMATION OF THE PROPOSED OPTIONS FOR THE A27 ARUNDEL BYPASS.
 - DO NOT SCALE, USE STATED DIMENSIONS ONLY
 - REFER TO DRAWING HE551523-WSP-SGN-A27AR-DR-S-0001 FOR STRUCTURE LOCATIONS.
 - ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
 - ALL LEVELS ARE IN METRES AND ARE ABOVE ORDNANCE DATUM UNLESS NOTED OTHERWISE.
 - NO SERVICE INFORMATION IS CURRENTLY SHOWN.
 - TWO OPTIONS HAVE BEEN SUGGESTED FOR THE RETAINING WALLS FOR THE A27 ARUNDEL BYPASS. OPTION 1 IS CONSIDERED MORE COST EFFECTIVE AND QUICKER TO INSTALL. OPTION 2 REQUIRES LESS LAND TAKE.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction (Enter "None" if applicable)					
Maintenance / Cleaning (Enter "None" if applicable)					
Use (Enter "None" if applicable)					
Decommissioning / Demolition (Enter "None" if applicable)					

PO1	19/05/16	First Issue	TC	BH	BS
Rev.	Date	Description	By	Chkd	App'd

Drawing Status FOR INFORMATION		Suitability S2	Project Title REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS		
		Westbrook Mills Borough Road Godalming Surrey GU7 2AZ Tel: +44 (0)1483 528400 Fax: +44 (0)1483 528989 www.wsp-pb.co.uk			
Client Working on behalf of highways england		Scale AS SHOWN	Drawn TC	Checked BH	Approved BS
Project HE551523 - WSP - SBR - A27AR - DR - S - 0009		Date 11/05/16	Date 11/05/16	Date 19/05/16	Date ---
Location A27AR - DR - S - 0009		Drawing Number A1	Project Ref. No. 3514447G	Revision P01	

Appendix I

COLLISION DATA

APPENDIX I-1
COLLISION DATA

A27 Route 2 – West Sussex – WSP

Collision report 01/06/2010 – 31/05/2015

Date produced
07 July 2015

The information included in this report is provided for analysis and is based on the data provided by Sussex Police. Some of the data included in this report is subjective and as such is not considered suitable for general release. In view of this it should not be transmitted to any other person in its original form, including in any report which may be available to the public. If you have any doubt regarding how this data may be used other than for analysis please contact SSRP for advice.

Sussex Safer Roads
P A R T N E R S H I P

Safer Roads
Safer Communities
Sharing the Responsibility

Data regarding personal injury collisions is recorded by Sussex Police in accordance with the DfT Stats 19 requirements. The data is subsequently used by Sussex Safer Roads Partnership for monitoring and planning. While every effort is made to ensure that this data is accurate, it is subject to change should further information become available.

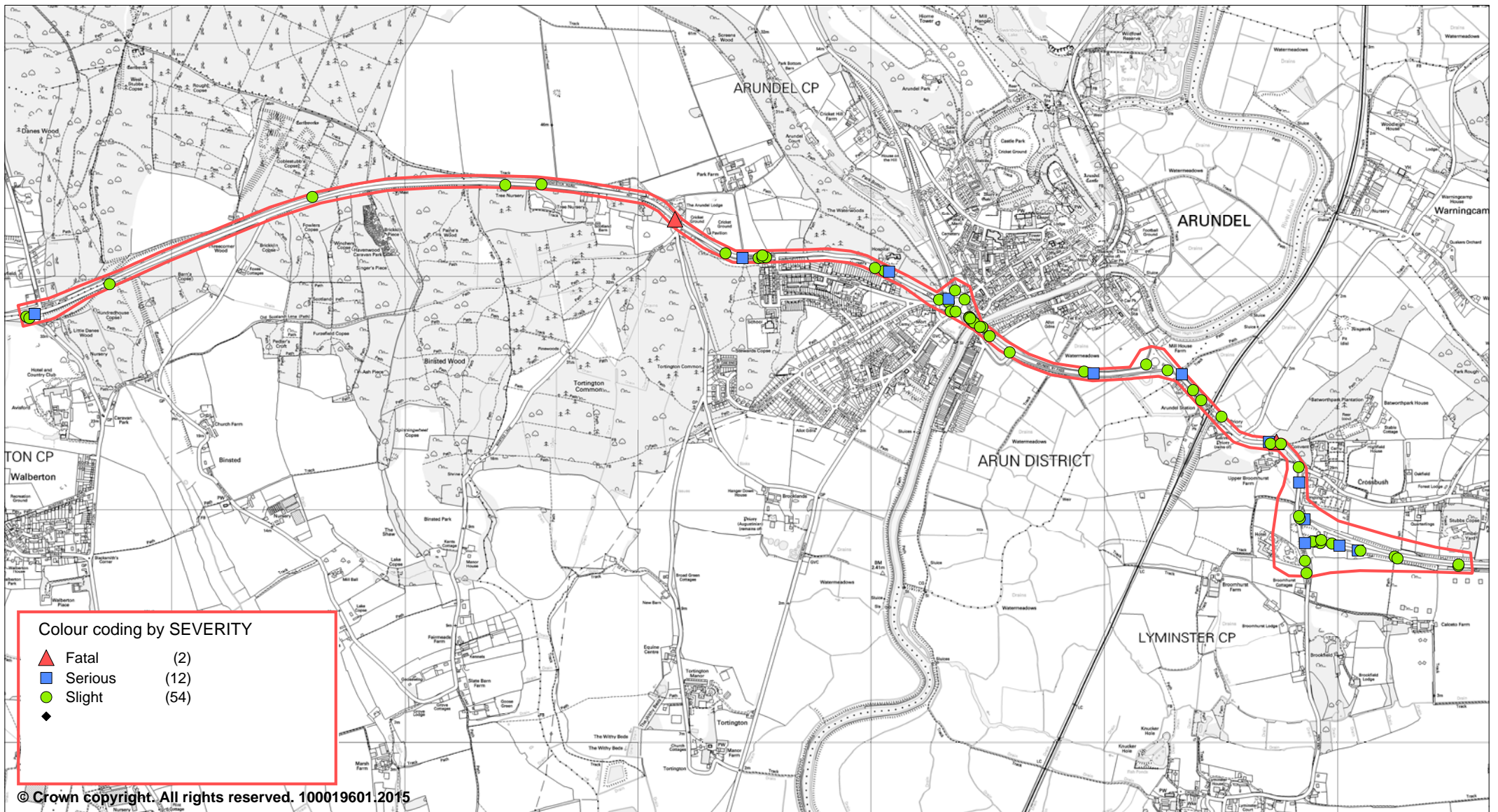
This data may not be fully validated and while every effort is made to ensure its accuracy any statistics provided may not match those published elsewhere.

Sussex Safer Roads Partnership does not hold collision data either where there are no recorded casualties or the incident has not been reported to Sussex Police.

For further information:

web: www.sussexsaferroads.gov.uk

email: data@sussexsaferroads.gov.uk



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Sussex Safer Roads
PARTNERSHIP

Collision data
Route 2 - A27 - West Sussex - WSP
01/06/2010 - 31/05/2015

SCALE

1 : 22716

DATE

06/07/2015

DRAWING No.

DRAWN BY

Details of Personal Injury Accidents for Period - **01/06/2010** to **31/05/2015** (60) months

Selection:

Selected using Manual Selection

Notes:

Police Ref.	Day	Location Description	Vehicles				Casualties				
			Veh No	Type	Age	Manv / Dir / Class	Sex	Age	Sev		
Road No.	Date										
2nd Road No.	Time										
Grid Ref.	D/L										
	R.S.C										
	Weather										
	Speed										
	Account of Accident										
Causation Factor:											

1005867	Monday	A27 ARUNDEL-BY-PASS 350m West of U THE CAUSEWAY OPPOSITE WATER MEADOWS	Veh 2	Car	44	Wait go ahead held	W to E	FSP	M	27	Slight
R1: A 27	06/09/2010		Veh 2	Car	44	Wait go ahead held	W to E	Dri	M	44	Slight
	1605 hrs		Veh 3	Car	42	Wait go ahead held	W to E	Dri	M	42	Slight
E 501,914	Dry		Veh 4	Car	44	Wait go ahead held	W to E				
N 106,592	Fine without high winds		Veh 1	Car	45	Go/head	W to E				
	40 mph										

Causation Factor:

- 1st:** Travelling too fast for conditions
- 2nd:** Failed to look properly
- 3rd:** Careless/Reckless/In a hurry
- 4th:** Inexperience with type of vehicle

Participant:

- Vehicle 001
- Vehicle 001
- Vehicle 001
- Vehicle 001

Confidence:

- Very Likely
- Very Likely
- Possible
- Possible

VEHICLES 2, 3 AND 4 STATIONARY IN HEAVY TRAFFIC EASTBOUND CARRIAGEWAY. VEHICLE 1 TRAVELLING EASTBOUND, FAILED TO STOP FOR STATIONARY TRAFFIC COLLIDING WITH REAR OF V2, PUSHING THIS INTO V3 AND V3 INTO V4, CAUSING MINOR INJURIES TO OCCUPANTS OF V2 AND V3.

1007458	Friday	A27 STATION ROAD 126m East of U WARNINGCAMP ROAD	Veh 1	Minibus	26	Go/head	W to E	F	27	Serious
R1: A 27	29/10/2010									
	2140 hrs									
	Darkness: street lights present									
E 502,708	Dry									
N 106,290	Fine without high winds									
	30 mph									

Causation Factor:

- 1st:** Other
- 2nd:** Vehicle door opened or closed negligently
- 3rd:** Other

Participant:

- Casualty 001
- Casualty 001
- Vehicle 001

Confidence:

- Very Likely
- Very Likely

AS V1 WAS TRAVELLING ON THE ASCENT AT ARUNDEL TOWARDS CROSSBUSH ADULT FEMALE PASSENGER FELL FROM REAR OF VEHICLE CAUSING INJURY.

1007524	Saturday	A27 100m West of U STATION APPROACH ARUNDEL	Veh 2	Car	40	Wait go ahead held	W to E	FSP	M	40	Slight
R1: A 27	06/11/2010		Veh 2	Car	40	Wait go ahead held	W to E	RSP	M	14	Slight
	1047 hrs		Veh 2	Car	40	Wait go ahead held	W to E	Dri	F	40	Slight
E 502,417	Wet/Damp		Veh 1	Car	20	Go/head	W to E				
N 106,469	Other										
	40 mph										

Causation Factor:

- 1st:** Sudden braking

Participant:

- Vehicle 001

Confidence:

- Very Likely

VEHICLE 2 STATIONARY IN QUEUE OF TRAFFIC STRUCK FROM BEHIND BY MOVING VEHICLE 1

Details of Personal Injury Accidents for Period - **01/06/2010** to **31/05/2015** (60) months

Selection:

Selected using Manual Selection

Notes:

Police Ref.	Day	Location Description	Vehicles							Casualties			
			Veh No	Type	Age	Manv	Dir	Class	Sex	Age	Sev		
Road No.	Date												
2nd Road No.	Time												
Grid Ref.	D/L												
	R.S.C												
	Weather												
	Speed												
	Account of Accident												
Causation Factor:													

1004309 Thursday A27 ARUNDEL ROAD of A284
01/07/2010 LYMINSTER ROAD Veh 1 Goods > 7.5t 55 Go/ahead LH bend N to E Dri M 55 Serious
R1: A 27 0615 hrs
R2: A 27
E 502,860 Dry
N 105,958 Fine without high winds
40 mph

Causation Factor:

1st: Exceeding speed limit
2nd: Travelling too fast for conditions

Participant:

Vehicle 001
Vehicle 001

Confidence:

Very Likely
Very Likely

VEHICLE ONE ARTICULATED LORRY, TRAVELLING ON EAST BOUND CARRIAGEWAY, NEGOTIATED LEFT HAND BEND AT EXCESSIVE SPEED, VEHICLE TURNED OVER ONTO OFFSIDE AND STRUCK KERB AND ARMCO. DRIVER SUFFERED SERIOUS INJURY TO RIGHT ARM.

1100882 Wednesday A27 ARUNDEL BYPASS of A27
09/02/2011 CHICHESTER ROAD Veh 2 Car 59 Stopping N to S Dri F 59 Slight
R1: A 27 1345 hrs Veh 3 Car 55 Stopping N to S
R2: A 27 Veh 1 Car 28 Stopping N to S
E 501,430 Dry
N 106,812 Fine without high winds
40 mph

Causation Factor:

1st: Failed to judge other persons path or speed

Participant:

Vehicle 001

Confidence:

Very Likely

VEHICLE 1 COLLIDED INTO THE BACK OF VEHICLE 2 WHICH THEN COLLIDED INTO THE BACK OF VEHICLE 3.

1101509 Wednesday A27 ARUNDEL ROAD of B2132
09/03/2011 YAPTON LANE Veh 2 Car 26 Go/head E to W Dri F 26 Slight
R1: A 27 0805 hrs Veh 1 Car 50 O/take m/veh o/side E to W
R2: B 2132
E 497,376 Wet/Damp
N 106,828 Fine without high winds
70 mph

Causation Factor:

1st: Failed to look properly
2nd: Failed to judge other persons path or speed

Participant:

Vehicle 001
Vehicle 001

Confidence:

Very Likely
Possible

VEHICLE 2 TRAVELLING WEST ON A27 DUAL CARRIAGEWAY IN OFFSIDE LANE, VEHICLE 1 ENTERING A27 FROM B2132 ALSO TRAVELLING WEST USING SLIP ROAD BEHIND HGV. AS VEHICLE 1 JOINS A27 IT OVERTAKES HGV STRAIGHT INTO OFFSIDE LANE IN THE PATH OF VEHICLE 2, VEHICLE 2 COLLIDES WITH REAR OF VEHICLE 1.

Details of Personal Injury Accidents for Period - **01/06/2010** to **31/05/2015** (60) months

Selection:

Selected using Manual Selection

Notes:

Police Ref.	Day	Location Description	Vehicles				Casualties					
			Veh No	Type	Age	Manv / Dir / Class	Sex	Age	Sev			
Road No.	Date											
2nd Road No.	Time											
Grid Ref.	D/L											
	R.S.C											
	Weather											
	Speed											
	Account of Accident											
Causation Factor:												

1102215 Thursday A27 ARUNDEL RELIEF RD of U
07/04/2011 FITZALAN RD
Veh 2 M/C > 500 cc 39 Go/head E to W Dri M 39 Slight
R1: A 27 1750 hrs Veh 1 Car 30 U turn W to W
R2: U
E 501,478 Dry
N 106,782 Fine without high winds
40 mph

Causation Factor:

1st: Poor turn or manoeuvre

Participant:

Vehicle 001

Confidence:

Possible

V2 TRAVELLING EAST IN ROAD, OVER TAKING STATIONARY TRAFFIC ON O/S. V1 STOPPED IN TRAFFIC EAST BOUND DECIDED TO DO A U TURN, PULLED OUT IN TO PATH OF V2. COLLISION OCCURED. BOTH PARTIES STOPPED. NO DETAILS WERE EXCHANGED.

1102329 Tuesday A27 THE CAUSEWAY 180m East of C0
12/04/2011 FORD ROAD
Veh 2 Goods < 3.5t 47 Go/head E to W
R1: A 27 1526 hrs Veh 1 Car 73 Go/head W to E Dri F 73 Slight
E 501,509 Dry
N 106,744 Fine without high winds
40 mph

Causation Factor:

1st: Fatigue

Participant:

Vehicle 001

Confidence:

Very Likely

2nd: Illness or disability, mental or physical

Vehicle 001

Possible

VEHICLE 2 TRAVELLING WEST ON THE A27. VEHICLE 1 TRAVELLING EAST ON THE A27 MOVES ACROSS INTO THE PATH OF VEHICLE 2 COLLINDING WITH VEHICLE 2 AND THEN STRIKING METAL RAILINGS ON THE OFFSIDE.

1102534 Thursday A27 ARUNDEL BY PASS of A27
21/04/2011
Veh 2 Goods 3.5 - 7.5t29 Stopping E to W Dri M 29 Slight
R1: A 27 0818 hrs Veh 3 Car 58 Stopping E to W
R2: A 27 Veh 1 Goods 3.5 - 7.5t40 Stopping E to W
E 501,424 Dry
N 106,825 Fine without high winds
40 mph

Causation Factor:

1st: Loss of control

Participant:

Vehicle 001

Confidence:

Very Likely

2nd: Failed to judge other persons path or speed

Vehicle 002

Very Likely

3rd: Sudden braking

Vehicle 002

ALL THREE VEHICLES APPROACHED THE A27 AND A284 TRAVELLING WESTBOUND. VEHICLES 2 AND 3 STOPPED DUE TO QUEUING TRAFFIC. VEHICLE 1 COLLIDED INTO THE REAR OF VEHICLE 2 WHICH IN TURN IMPACTED INTO THE REAR OF VEHICLE 3.

Details of Personal Injury Accidents for Period - **01/06/2010** to **31/05/2015** (60) months

Selection:

Selected using Manual Selection

Notes:

Police Ref.	Day	Location Description	Vehicles					Casualties					
			Veh No	Type	Age	Manv	Dir	Class	Sex	Age	Sev		
Road No.	Date												
2nd Road No.	Time												
Grid Ref.	D/L												
	R.S.C												
	Weather												
	Speed												
	Account of Accident												
Causation Factor:													

1103162 Saturday A27 of A284
21/05/2011
Veh 2 Car 28 Stopping W to E FSP M 27 Slight
R1: A 27 1831 hrs Veh 2 Car 28 Stopping W to E Dri F 28 Slight
R2: A 27 Veh 1 Car 28 Go/head W to E
E 501,334 Dry
N 106,888 Fine without high winds
30 mph

Causation Factor: **Participant:** **Confidence:**
1st: Poor turn or manoeuvre Vehicle 001 Possible
2nd: Junction restart Vehicle 001 Possible
V1 AND V2 TRAVELLING EAST ON THE A27 APPROACH THE ROUNDABOUT WITH THE A284. V2 BEGINS TO MOVE ONTO THE ROUNDABOUT AND STOPS. V1 MOVES FORWARDS AND HAS NOT NOTICED V2 HAS STOPPED AND COLLIDES WITH THE REAR OF V2. OCCUPANTS OF V2 SUSTAINED VERY SLIGHT INJURIES AS A RESULT NO HOSPITAL TREATMENT REQUIRES

1103814 Monday A27 THE CAUSEWAY 157m South of
20/06/2011 A27 ARUNDEL BYPASS ARUNDEL TRAIN STATION
Veh 2 Pedal cycle 32 Go/head S to N Dri M 32 Slight
R1: A 27 0650 hrs Veh 1 Car O/take m/veh o/side S to N
E 502,382 Wet/Damp
N 106,512 Raining with high winds
30 mph

Causation Factor: **Participant:** **Confidence:**
1st: Passing too close to cyclist, horse rider or pedestrian Vehicle 001 Very Likely
CYCLIST GOING DOWN BRIDGE TOWARDS ROUNDABOUT VEHICLE PASSED AND CLIPPED HANDLEBARS OF BIKE CAUSING CYCLIST TO FALL OFF BIKE AND INTO BUSHES.

1100890 Thursday A27 21m West of U BINSTED LANE
10/02/2011 THE WHITE SWAN HOTEL
Veh 2 Car 24 Go/head E to W Dri F 24 Slight
R1: A 27 2124 hrs Veh 1 Car 21 Go/ahead RH bend W to SE Dri M 21 Fatal
Darkness: no street lighting
E 500,159 Wet/Damp
N 107,245 Fine without high winds
60 mph

Causation Factor: **Participant:** **Confidence:**
1st: Loss of control Vehicle 001 Very Likely
VEH 1 HEADING EASTBOUND ON A27 TOWARDS ARUNDEL. VEH 1 LOST CONTROL AND CROSSED ONTO WESTBOUND LANE, NEARSIDE OF VEH IN COLLISION WITH ONCOMING VEHICLE WHICH WAS HEADING WEST. FOLLOWING IMPACT, VEH 1 CAUGHT FIRE.

Details of Personal Injury Accidents for Period - 01/06/2010 to 31/05/2015 (60) months

Selection:

Selected using Manual Selection

Notes:

Police Ref.	Day	Location Description	Vehicles					Casualties						
			Veh No	Type	Age	Manv	Dir	Class	Sex	Age	Sev			
Road No.	Date													
2nd Road No.	Time													
Grid Ref.	D/L													
	R.S.C													
	Weather													
	Speed													
	Account of Accident													
Causation Factor:														

1104677 Saturday A27 CHICHESTER ROAD 192m East of U JARVIS ROAD
 30/07/2011
R1: A 27 1848 hrs
 Veh 1 Car 75 Go/head W to E FSP F 75 Serious
 Veh 1 Car 75 Go/head W to E Dri M 75 Slight
E 500,449 Dry
N 107,079 Fine without high winds
 60 mph

Causation Factor: Illness or disability, mental or physical
Participant: Vehicle 001
Confidence: Very Likely
 V1 TRAVELLING EAST LOST CONTROL SUSPECTED MEDICAL EPISODE AT THE WHEEL LEFT CARRIAGEWAY TO OFFSIDE INTO HEDGEROW CAUSING SERIOUS INJURY TO FEMALE PASSENGER.

1106231 Monday A27 of U CROSSBUSH LANE
 19/09/2011
R1: A 27 1745 hrs
R2: U Darkness: street lights present
E 502,835 Dry
N 106,182 Fine without high winds
 30 mph

Causation Factor: Following too close
Participant: Vehicle 001
Confidence: Very Likely
 V2 TRAV W IN ROAD, STATIONARY IN LINE OF TRAFFIC. V1 DROVE INTO REAR OF V2, PUSHING IT INTO REAR OF V3. ALL STOPPED AND EXCHANGED DETAILS. V2 DRIVER SUBSEQUENTLY HAS WHIP LASH INJURY.

1107970 Thursday A27 CHICHESTER RD 276m West of A285 ARUNDEL BY PASS
 15/12/2011
R1: A 27 0755 hrs
 Veh 2 Car 55 Go/head E to W Dri F 55 Slight
 Veh 1 Car 50 Go/head W to E
E 501,057 Wet/Damp
N 107,024 Fine without high winds
 60 mph

Causation Factor: Careless/Reckless/In a hurry
Participant: Vehicle 001
Confidence: Possible
2nd: Loss of control
 Vehicle 001
Confidence: Possible
 V02 WAS TRAVELLING WESTWARDS ON A/L WHEN V01 TRAVELLING EASTWARDS VEERED ACROSS THE ROAD INTO ONCOMING TRAFFIC. V02 SWERVED TO AVOID V01 BUT V01 HIT V02. DRIVER OF V01 STOPPED AND SAID HER BRAKES HAD FAILED. DETAILS WERE SWAPPED AND DRIVER OF V01 THEN DROVE OFF (DESPITE FAILED BRAKES). DRIVER OF V02 IS INJURED.

Details of Personal Injury Accidents for Period - **01/06/2010** to **31/05/2015** (60) months

Selection:

Selected using Manual Selection

Notes:

Police Ref.	Day	Location Description	Vehicles					Casualties					
			Veh No	Type	Age	Manv	Dir	Class	Sex	Age	Sev		
Road No.	Date												
2nd Road No.	Time												
Grid Ref.	D/L												
	R.S.C												
	Weather												
	Speed												
	Account of Accident												
Causation Factor:													

1105252 Thursday A27 STATION ROAD 156m East of U
25/08/2011 WARNING CAMP JUNCTION
Veh 2 Goods > 7.5t 30 Go/head W to SE
R1: A 27 0711 hrs Veh 1 Car 19 Go/ahead LH bend SE to W Dri M 19 Fatal
E 502,740 Wet/Damp
N 106,290 Raining without high winds
40 mph

Causation Factor:

1st: Careless/Reckless/In a hurry
2nd: Loss of control

Participant:

Vehicle 001
Vehicle 001

Confidence:

Very Likely
Possible

VEH/1 TRAVELLING WEST ON A27 NEGOTIATES LEFT HAND BEND LOSES CONTROL FOR UNKNOWN REASON ENTERS EAST BOUND CARRIAGEWAY AND IMPACTS WITH VEH/2 HGV TRAVELLING EAST ON A27. DRIVER OF VEH/1 SUSTAINED FATAL INJURIES.

1202565 Wednesday A27 ARUNDEL BY-PASS of U
16/05/2012 MALTRAVERS STREET
Veh 2 Car 59 Wait go ahead held N to S Dri F 59 Slight
R1: A 27 1512 hrs Veh 1 Car Go/head W to E
R2: U
E 501,402 Dry
N 106,901 Fine without high winds
40 mph

Causation Factor:

1st: Defective steering or suspension

Participant:

Vehicle 001

Confidence:

Very Likely

VEHICLE TWO WAITING TO JOIN A27 FROM MALTRAVERS STREET, VEHICLE ONE NEGOTIATING ROUNDABOUT WITH TRAILER ATTACHED. WHEEL FROM TRAILER HAS BECOME LOOSE AND STRUCK VEHICLE TWO IN THE DRIVERS DOOR, CAUSING DAMAGE AND GLASS TO BREAK INJURING DRIVER BY WAY OF CUTS.

1202503 Monday A284 LYMINSTER ROAD ARUNDEL
14/05/2012 At Junction of U
Veh 2 Car 42 Wait to turn right N to W Dri F 42 Slight
R1: A 284 1220 hrs Veh 1 Car Turning left W to N
R2: U
E 502,862 Wet/Damp
N 105,780 Raining without high winds
30 mph

Causation Factor:

1st: Careless/Reckless/In a hurry
2nd: Failed to look properly

Participant:

Vehicle 001
Vehicle 001

Confidence:

Possible
Possible

V2 WAS INDICATING TO TURN RIGHT INTO ROAD LEADING TO PETROL STATION, MOTEL AND MACDONALDS RESTAURANT. V1 HAS PULLED OUT OF ROAD, COLLIDED WITH V2, CAUSING IT TO SPIN. DRIVER OF V1 DID NOT STOP TO EXCHANGE DETAILS AT THE SCENE.

Details of Personal Injury Accidents for Period - 01/06/2010 to 31/05/2015 (60) months

Selection:

Selected using Manual Selection

Notes:

Police Ref.	Day	Location Description	Vehicles				Casualties				
			Veh No	Type	Age	Manv / Dir / Class	Sex / Age / Sev	Sex / Age / Sev	Sex / Age / Sev	Sex / Age / Sev	
Road No.	Date										
2nd Road No.	Time										
Grid Ref.	D/L										
	R.S.C										
	Weather										
	Speed										
	Account of Accident										
Causation Factor:											

1200421 Monday A27 CROSSBUSH ROUNDABOUT
23/01/2012 ARUNDEL At Junction of A27
LYMINSTER ROAD
Veh 2 Car 17 Starting E to W FSP M 37 Slight
R1: A 27 1535 hrs Veh 2 Car 17 Starting E to W Dri F 17 Slight
R2: A 27 Veh 1 Goods < 3.5t 47 Starting E to W
E 502,903 Wet/Damp
N 105,862 Fine without high winds
70 mph

Causation Factor:

1st: Failed to look properly

Participant:

Vehicle 001

Confidence:

Very Likely

V1 AND V2 BOTH TRAVELLING WEST ON A27. ON EXITING TRAFFIC LIGHTS BOTH VEHICLES CONTINUED WEST ON A27. V1 DROVE INTO REAR OF V2 CAUSING MINOR DAMAGE. DRIVER AND PASSENGER OF V2 SUSTAINED MINOR WHIP LASH INJURIES .

1204308 Monday A27 ARUNDEL ROAD ARUNDEL At
20/08/2012 Junction of A27 LYMINSTER ROAD
Veh 2 Car 45 Go/head E to W
R1: A 27 1742 hrs Veh 1 Car 36 Turning right N to W RSP F 7 Slight
R2: A 27
E 502,923 Dry
N 105,866 Fine without high winds
40 mph

Causation Factor:

1st: Defective traffic signals

Participant:

Vehicle 001

Confidence:

Very Likely

2nd: Failed to look properly

Vehicle 001

Possible

3rd: Road layout (eg bend, hill crest)

Vehicle 001

VEHICLE ONE ON APPROACH TO WESTBOUND A27 FROM SLIP ROAD FROM EAST BOUND A27. TRAFFIC LIGHTS AT JUNCTION U/S . VEHILCE ONE DUE TO BEING UNFAMILAR WITH LOCATION HAS PULLED OU ONTO WESTBOUND A27 INOT PATH OF VEHICLE 2 CAUSING MINOR INJURY RTC.

1200361 Friday A27 THE CAUSEWAY AUNDEL 92m
20/01/2012 South of A27 ARUNDEL BY PASS
Veh 2 Pedal cycle 57 Starting W to E Dri F 57 Serious
R1: A 27 1435 hrs Veh 1 Goods > 7.5t 54 Starting W to E
E 502,334 Dry
N 106,580 Fine without high winds
40 mph

Causation Factor:

1st: Failed to judge other persons path or speed

Participant:

Vehicle 001

Confidence:

Possible

2nd: Careless/Reckless/In a hurry

Vehicle 001

Possible

3rd: Cyclist entering road from pavement

Vehicle 002

V1 OVERTAKING PEDAL CYCLE, NOT ENOUGH ROOM GIVEN TO PEDAL CYCLIST AND CYCLIST IS CLIPPED BY REAR OF V1 CAUSING CYCLIST TO COME OFF AND THEN REAR NEARSIDE WHEEL RUNS OVER CYCLIST RIGHT ARM CAUSING CRUSHING AND BRUISING.

Details of Personal Injury Accidents for Period - 01/06/2010 to 31/05/2015 (60) months

Selection:

Selected using Manual Selection

Notes:

Police Ref.	Day	Location Description	Vehicles				Casualties						
			Veh No	Type	Age	Manv / Dir / Class	Sex	Age	Sev				
Road No.	Date												
2nd Road No.	Time												
Grid Ref.	D/L												
	R.S.C												
	Weather												
	Speed												
	Account of Accident												
Causation Factor:													

1202797 Wednesday A27 CROSSBUSH 60m East of A284
30/05/2012 LYMINSTER ROAD
R1: A 27 1230 hrs
Veh 2 Car 40 Go/head S to W
Veh 3 Goods < 3.5t 28 Go/head S to W
Veh 1 Goods < 3.5t 32 Go/head S to W Dri M 32 Slight
E 502,978 Dry
N 105,854 Fine without high winds
60 mph

Causation Factor: Failed to judge other persons path or speed
Participant: Vehicle 001
Confidence: Possible
V1 TRAVELLING NORTH TO SOUTH, ROAD DIVIDES INTO 2,V1 ON OUTSIDE LANE HITS V2 ON OFFSIDE, V3 TRAVELLING BEHIND HITS V1

1300250 Monday A27 ARUNDEL At Junction of A27
14/01/2013
R1: A 27 1205 hrs
Veh 2 Car 41 Go/head NW to E
R2: A 27 Veh 3 Car 59 Go/head NW to E RSP F 89 Slight
Veh 3 Car 59 Go/head NW to E Dri F 59 Slight
E 502,840 Wet/Damp
Veh 1 Car Turning right S to E
N 105,962 Fine without high winds
40 mph

Causation Factor: Aggressive driving
Participant: Vehicle 001
Confidence: Possible
Sudden braking
Vehicle 002
Very Likely
V1 WAS TRAVELLING ON THE A27 FROM THE A284 AND APPROACHING THE JUNCTION WITH THE A27 INTENDING TO HEAD TOWARDS WORTHING. HE WAS APPROACHING THE GIVE WAY SIGN QUICKLY AND V2 THOUGHT HE WASNT GOING TO STOP AND BRAKED SHARPLY CAUSING V3 TO GO INTO THE R EAR OF V2. V1 WAS NOT HIT AND DID NOT STOP.

1203918 Tuesday A27 CHICHESTER ROAD ARUNDEL
31/07/2012 68m North of C17 FORD ROAD
R1: A 27 1230 hrs
Veh 2 Car 49 Go/head S to N Dri M 49 Slight
Veh 1 Goods < 3.5t 37 U turn S to S M 10 Slight
E 501,292 Dry
N 106,900 Fine without high winds
40 mph

Causation Factor: Failed to look properly
Participant: Vehicle 001
Confidence: Very Likely
VEHICLE 1 PULLED IN TO LAYBY ON A27 AFTER TAKING WRONG TURNING AT ROUNDABOUT. VEHICLE 2 EXITS SAME ROUNDABOUT TOWARDS VEHICLE 1 AT THE SAME TIME THAT VEHICLE 1 COMMENCES U-TURN. FRONT OF VEHICLE 2 STRIKES OFFSIDE OF VEHICLE 1.

Details of Personal Injury Accidents for Period - 01/06/2010 to 31/05/2015 (60) months

Selection:

Selected using Manual Selection

Notes:

Police Ref.	Day	Location Description	Vehicles					Casualties						
			Veh No	Type	Age	Manv	Dir	Class	Sex	Age	Sev			
Road No.	Date													
2nd Road No.	Time													
Grid Ref.	D/L													
	R.S.C													
	Weather													
	Speed													
	Account of Accident													
Causation Factor:														

1300066	Sunday	A27 ARUNDEL 136m West of U CROSSBUSH LANE	Veh 2	Car	70	Go/head	W	to E	Dri	M	70	Slight
R1: A 27	06/01/2013		Veh 3	Car	46	Go/head	W	to E	Dri	M	46	Slight
	1111 hrs		Veh 3	Car	46	Go/head	W	to E	FSP	F	73	Slight
E 502,714	Dry		Veh 1	Goods > 7.5t	53	Go/ahead LH bend	SE	to SW	Dri	M	53	Slight
N 106,283	Fine without high winds											
	40 mph											

Causation Factor:

- 1st:** Loss of control
2nd: Aggressive driving

Participant:

- Vehicle 001
Vehicle 001

Confidence:

- Possible
Possible

V1 WAS TRAVELLING WEST ALONG A27 WHILST V2 AND V3 WERE TRAVELLING EAST. V1 LOST CONTROL ON A LEFT HAND BEND CAUSING THE NEARSIDE WHEELS TO LIFT OFF OF THE GROUND. V1 COLLIDED WITH V2 TRAVELLING TOWARDS, V1 ROLLED ONTO ITS NEARSIDE AND COLLIDED HEAD ON WITH V3.

1301281	Sunday	A27 ARUNDEL BY PASS ARUNDEL 68m South of C17 FORD ROAD	Veh 2	Car	20	Wait go ahead held	S	to N	Dri	F	20	Slight
R1: A 27	10/03/2013		Veh 3	Car	33	Wait go ahead held	S	to N	Dri	M	33	Slight
	1105 hrs		Veh 4	Car	55	Wait go ahead held	S	to N				
E 501,442	Dry		Veh 1	Car	82	Stopping	S	to N				
N 106,802	Fine without high winds											
	40 mph											

Causation Factor:

- 1st:** Failed to judge other persons path or speed

Participant:

- Vehicle 001

Confidence:

- Very Likely

VEHICLE 4 NORTH ON ARUNDEL BY PASS SLOWS AND STOPS ON APPROACH TO ROUNDABOUT. VEHICLE 3 BEHIND VEHICLE 4 SLOWS AND STOPS. VEHICLE 2 BEHIND VEHICLE 3 SLOWS AND STOPS. VEHICLE 1 BEHIND VEHICLE 2 FAILS TO SLOW IN TIME. VEHICLE 1 COLLIDES WITH REAR OF VEHICLE 2 WHICH IN TURN IS PUSHED INTO VEHICLE 3 AND THEN IN TURN VEHICLE 4

1301342	Tuesday	A284 LYMINSTER ROAD ARUNDEL 75m North of U CALCETO LANE	Veh 1	Goods < 3.5t		Go/head	S	to N	Ped	M	15	Slight
R1: A 284	12/03/2013											
	1050 hrs											
E 502,869	Snow											
N 105,727	Fine without high winds											
	40 mph											

Causation Factor:

- 1st:** Passing too close to cyclist, horse rider or pedestrian
2nd: Aggressive driving
3rd: Swerved

Participant:

- Vehicle 001
Vehicle 001
Vehicle 001

Confidence:

- Very Likely
Possible

CASUALTY ONE WAS WALKING ALONG LYMINSTER ROAD IN A NORTHERLY DIRECTION TOWARDS THE TRAFFIC LIGHTS AT CROSSBUSH. A VAN (COMING FROM THE SAME DIRECTION) APPEARED TO SWERVE TOWARDS HIM DELIBERATELY TO DRIVE THROUGH A PUDDLE AND COLLIDED WITH THE CASUALTY

Details of Personal Injury Accidents for Period - 01/06/2010 to 31/05/2015 (60) months

Selection:
Selected using Manual Selection

Notes:

Police Ref.	Day	Location Description	Vehicles					Casualties				
			Veh No	Type	Age	Manv	Dir	Class	Sex	Age	Sev	
Road No.	Date											
2nd Road No.	Time											
Grid Ref.	D/L											
	R.S.C											
	Weather											
	Speed											
	Account of Accident											

Causation Factor:

YS RIGHT ARM, CAUSING PAIN. THE DRIVER OF THE VAN PULLED OVER AND WOUND DOWN HIS WINDOW AND ASKED IF THE CASUALTY WAS OK. HE DROVE AWAY FROM THE SCENE WITHOUT EXCHANGING DETAILS AND THE CASUALTY DID NOT TAKE NOTE OF THE VEHICLE REGISTRATION PLATE.

1301760	Monday	A27 CHICHESTER ROAD ARUNDEL										
	08/04/2013	100m West of U JARVIS ROAD	Veh 2	Car	29	Go/head	E	to W				
R1: A 27	1127 hrs		Veh 3	Car	41	Go/head	E	to W				
			Veh 1	Car	53	Go/head	E	to W	Dri	M	53	Slight
E 500,376	Dry											
N 107,099	Fine without high winds											
	60 mph											

Causation Factor:

1st: Careless/Reckless/In a hurry

Participant:

Vehicle 001

Confidence:

Very Likely

V3 V2 V1 TRAVELLING WESTBOUND A27 TOWARDS CHICHESTER IN THAT ORDER. V3 SLOWS FOR SLOW MOVING TRAFFIC IN FRONT. V1 FAILS TO SEE TRAFFIC SLOWING AND COLLIDES INTO THE REAR OF V2 WHICH THEN WENT INTO THE REAR OF V3

1301677	Tuesday	A27 ARUNDEL 867m East of A284										
	02/04/2013	LYMINSTER ROAD	Veh 1	Car	44	Go/head	E	to W	Dri	F	44	Slight
R1: A 27	1218 hrs											
E 503,520	Dry											
N 105,758	Fine without high winds											
	70 mph											

Causation Factor:

1st: Swerved

Participant:

Vehicle 001

Confidence:

Very Likely

V1 TRAVELLING WESTBOUND HAS SWERVED TO AVOID ANIMAL (BIRD) WHICH HAS CAUSED LOSS OF CONTROL TO V1. V1 HAS THEN LEFT THE CARRIAGEWAY TO N/S COMING TO REST ON ITS SIDE IN UNDERGROWTH.

1302153	Tuesday	A27 THE CAUSEWAY ARUNDEL At										
	30/04/2013	Junction of U CROSSBUSH INN	Veh 2	M/C > 500 cc	42	Turning left	N	to E	Dri	M	42	Serious
R1: A 27	1727 hrs	ENTRANCE outside AT ENTRANCE TO	Veh 1	Car	20	Go/head	N	to S				
R2: U												
E 502,837	Dry											
N 106,116	Fine without high winds											
	40 mph											

Causation Factor:

- 1st:** Careless/Reckless/In a hurry
- 2nd:** Nervous/Uncertain/Panic
- 3rd:** Failed to judge other persons path or speed
- 4th:** Failed to signal/Misleading signal
- 5th:** Distraction in vehicle

Participant:

- Vehicle 001
- Vehicle 001
- Vehicle 001
- Vehicle 002
- Vehicle 001

Confidence:

- Possible
- Possible
- Possible
- Possible
- Possible

IT WOULD APPEAR THAT VEHICLE TWO WAS TRAVELLING EAST ALONG THE A27 AT CROSSBUSH WHEN IT SLOWED AND INDICATED TO TURN INTO THE CROSSBUSH INN CAR PARK. VEHICLE ONE TRAVELLING IMMEDIATELY BEHIND FAILED TO OBSERVE THE CHANGE IN SPEED AND COLLIDED WITH THE REAR OF VEHICLE ONE, CAUSING THE RIDER TO FALL.

Details of Personal Injury Accidents for Period - **01/06/2010** to **31/05/2015** (60) months

Selection:

Selected using Manual Selection

Notes:

Police Ref.	Day	Location Description	Vehicles					Casualties				
			Veh No	Type	Age	Manv	Dir	Class	Sex	Age	Sev	
Road No.	Date											
2nd Road No.	Time											
Grid Ref.	D/L											
	R.S.C											
	Weather											
	Speed											
	Account of Accident											
Causation Factor:												

1302975 Tuesday A27 CHICHESTER ROAD ARUNDEL
11/06/2013 620m West of C0 BINSTEAD LANE Veh 1 Car 37 Go/head E to W RSP F 27 Slight
R1: A 27 2056 hrs

E 499,586 Dry
N 107,395 Fine without high winds
70 mph

Causation Factor:

1st: Defective steering or suspension
2nd: Loss of control

Participant:

Vehicle 001
Vehicle 001

Confidence:

Possible
Possible

VEH1 TRAVELLING WEST ALONG A27 DUAL CARRIAGE WAY, LOSS OF CONTROL AND VEHICLE SPINS ACROSS LANE 2 INTO THE CENTRAL RESERVATION AND ENDS UP GOING OVER THE CENTRAL RESERVATION AND COMING TO REST PARTIALLY IN LANE 2 OF THE WEST BOUND CARRIAGE WAY.

1303166 Saturday A27 THE CAUSEWAY ARUNDEL At
22/06/2013 Junction of U PRIVATE DRIVEWAY TO CONVENT outside CONVENT Veh 1 Goods < 3.5t 29 Go/head N to S Dri M 29 Slight
R1: A 27 0819 hrs

R2: U
E 502,759 Wet/Damp
N 106,282 Raining without high winds
40 mph

Causation Factor:

1st: Travelling too fast for conditions

Participant:

Vehicle 001

Confidence:

Very Likely

V1 HEADING OUT OF UNNAMED ROAD APPROACHING A27 WHEN DRIVER LOST CONTROL AND COLLIDED WITH LAMP POST ON EAST BOUND C/WAY OF A27. DRIVER STATED BRAKES FAILED.

1303788 Monday U FORD ROAD ARUNDEL AT
22/07/2013 JUNCTION OF A27 ARUNDEL BY PASS OUTSIDE AT GIVE WAY OF R/A Veh 1 Car 42 Stopping S to N
R1: U 1035 hrs Veh 2 Pedal cycle 46 Wait to turn left S to W Dri F 46 Slight
R2: A 27 Daylight:street lights present

E 501,342 Dry
N 106,850 Fine without high winds
40 mph

Causation Factor:

1st: Failed to look properly

Participant:

Vehicle 1

Confidence:

Very Likely

CYCLIST VEHICLE 2 ON FORD ROAD, ARUNDEL WAITING AT GIVE WAY JUNCTION TO ENTER A27 ARUNDEL BY PASS ROUNDABOUT TO TRAVEL WESTBOUND WAS STRUCK FROM BEHIND BY APPROACHING VEHICLE 1 WHO FAILED TO SEE CYCLIST WAITING AND KNOCKED CYCLIST TO FLOOR CAUSING PAIN I N RIGHT LEG FROM CONTACT WITH HEAVY BRUISING.

Details of Personal Injury Accidents for Period - **01/06/2010** to **31/05/2015** (60) months

Selection:

Selected using Manual Selection

Notes:

Police Ref.	Day	Location Description	Vehicles					Casualties						
			Veh No	Type	Age	Manv	Dir	Class	Sex	Age	Sev			
Road No.	Date													
2nd Road No.	Time													
Grid Ref.	D/L													
	R.S.C													
	Weather													
	Speed													
	Account of Accident													

Causation Factor:

1304599 Wednesday A27 ARUNDEL ROAD WALBERTON.
28/08/2013 500M EAST OF B2132 YAPTON ROAD Veh 1 Car 26 Go/head E to W Dri M 26 Slight
OUTSIDE NONE NEAR.
R1: A 27 0447 hrs
Darkness: no street lighting
E 497,733 Dry
N 106,967 Fine without high winds
70 mph

Causation Factor:

1st: Loss of control

Participant:

Vehicle 1

Confidence:

Very Likely

V1 HEADING WEST ON A27. FOR REASONS AS YET UNKNOWN, DRIVER LOST CONTROL, EXITED ROAD TO NEARSIDE AND IMPACTED WITH BUSHES BEFORE COMING TO A REST.

1305190 Thursday A27 CHICHESTER ROAD ARUNDEL
03/10/2013 774M WEST OF U BINSTED LANE Veh 1 Goods < 3.5t 66 Go/head E to W
R1: A 27 0921 hrs Veh 2 Car 39 Parked 0 to 0 Dri F 39 Slight
Daylight:street lights present
E 499,431 Wet/Damp
N 107,392 Fine without high winds
70 mph

Causation Factor:

1st: Failed to look properly

Participant:

Vehicle 1

Confidence:

Very Likely

V2 BROKEN DOWN LANE IN LANE 1 OF WEST BOUND CARRIAGEWAY. VEHICLE STATIONARY FOR SEVERAL MINUTES. V1 TRAVELLING WEST BOUND FAILS TO SEE VEHICLE AND COLLIDES INTO THE REAR OFFISDE AND THEN CONTINUES MINOR DAMAGE CAUSED TO BOTH VEHICLES

1305772 Tuesday A27 ARUNDEL 50M WEST OF U
29/10/2013 JARVIS ROAD Veh 1 Car 23 Stopping E to W Dri F 23 Slight
R1: A 27 0742 hrs Veh 2 Goods < 3.5t 29 Stopping E to W
Daylight:street lights present Veh 3 Car Turning right E to N
E 500,518 Wet/Damp
N 107,079 Fine without high winds
60 mph

Causation Factor:

1st: Failed to judge other persons path or speed

Participant:

Vehicle 1

Confidence:

Very Likely

VEHICLE 1 TRAVELLING BEHIND VEHICLE 2 HEADING WEST. TRAFFIC AHEAD STOPPED FOR VEHICLE TO TURN RIGHT CAUSING QUEUE. VEHICLE 2 SLOWED, VEHICLE 1 FAILED TO SLOW ADEQUATELY COLLIDING WITH REAR OF VEHICLE 2.

Details of Personal Injury Accidents for Period - 01/06/2010 to 31/05/2015 (60) months

Selection:

Selected using Manual Selection

Notes:

Police Ref.	Day	Location Description	Vehicles				Casualties					
			Veh No	Type	Age	Manv	Dir	Class	Sex	Age	Sev	
Road No.	Date											
2nd Road No.	Time											
Grid Ref.	D/L											
	R.S.C											
	Weather											
	Speed											
	Account of Accident											
Causation Factor:												

1304385 Wednesday A27 ARUNDEL BY PASS ARUNDEL
21/08/2013 63M SOUTH OF C0 FORD ROAD
Veh 1 Goods 3.5 - 7.5t30 Go/head NW to SE
R1: A 27 0900 hrs Veh 2 Car 73 Wait go ahead held NW to SE Dri F 73 Slight
Daylight:street lights present Veh 3 Car 50 Wait go ahead held NW to SE
E 501,421 Dry
N 106,825 Fine without high winds
40 mph

Causation Factor: Careless/Reckless/In a hurry
Participant: Vehicle 1
Confidence: Very Likely
V2 WAS BEHIND V3 AT THE ROUNDABOUT WAITING TO GO AHEAD. V1 WENT INTO REAR OF V2 AND V2 WENT INTO REAR OF V3. ALL DETAILS EXCHANGED. INURY CAUSED TO DRIVER OF V2 HENCE REPORT TAKEN.

1306661 Saturday A27 ARUNDEL ROAD CROSSBUSH
07/12/2013 ARUNDEL 696M EAST OF A284
Veh 1 Car 69 Go/head E to W FSP F 60 Slight
R1: A 27 1709 hrs LYMINSTER ROAD OUTSIDE JUST
Veh 1 Car 69 Go/head E to W RSP M 63 Slight
Darkness: street lights present Veh 2 Car 65 Go/head E to W Dri F 65 Slight
E 503,521 Dry
N 105,764 Fine without high winds
50 mph

Causation Factor: Careless/Reckless/In a hurry
Participant: Vehicle 1
Confidence: Very Likely
2nd: Failed to look properly Vehicle 1 Very Likely
3rd: Failed to judge other persons path or speed Vehicle 1 Possible
4th: Exceeding speed limit Vehicle 1 Possible
5th: Following too close Vehicle 1 Very Likely
V1 AND V2 BOTH TRAVELLING W/B IN LANE 2. APPROACHING TRAFFIC LIGHTS. V2 START TO SLOW AND V1 DID NOT REACT AND HIT V2 FROMT HE REAR.

1306923 Friday A27 ARUNDEL 50M WEST OF U
20/12/2013 JARVIS ROAD
Veh 1 Goods 3.5 - 7.5t46 Go/head E to W
R1: A 27 0844 hrs Veh 2 Car 36 Wait go ahead held E to W Dri M 36 Slight
Daylight:street lights present Veh 3 Car 68 Wait go ahead held E to W
E 500,534 Wet/Damp
N 107,081 Fine without high winds
40 mph

Causation Factor: Failed to judge other persons path or speed
Participant: Vehicle 1
Confidence: Very Likely
VEHICLE 1 TRAVELLING WESTBOUND. VEHICLES AHEAD STATIONARY DUE TO TRAFFIC BUILD UP. VEHICLE 1 COLLIDES WITH REAR OF VEHICLE 2 WHICH IN TURN COLLIDES WITH REAR OF VEHICLE 3.

Details of Personal Injury Accidents for Period - **01/06/2010** to **31/05/2015** (60) months

Selection:

Selected using Manual Selection

Notes:

Police Ref.	Day	Location Description	Vehicles				Casualties				
			Veh No	Type	Age	Manv / Dir / Class	Sex	Age	Sev		
Road No.	Date										
2nd Road No.	Time										
Grid Ref.	D/L										
	R.S.C										
	Weather										
	Speed										
	Account of Accident										
Causation Factor:											

140009 Sunday A27 WALBERTON AT JUNCTION OF
29/12/2013 B2132 Veh 1 Car 23 Go/ahead RH bend NE to W Dri M 23 Slight
R1: A 27 0900 hrs
R2: B 2132 Daylight:street lights present
E 497,389 Frost/Ice
N 106,821 Fine without high winds
70 mph

Causation Factor: **Participant:** **Confidence:**
1st: Slippery road (due to weather) Vehicle 1 Possible
V1 ONE DRIVING ON ROAD, HIT SOME BLACK ICE LOST CONTROL OF VEHICLE STARTED TO SPIN. MADE CONTACT WITH SHRUBS AND BUSHES. EVENTUALLY CAME TO STOP AGAINST A WALL CAUSING REAR DAMAGE TO VEHICLE AND NO DAMAGE TO THE WALL.

140084 Wednesday A27 CHICHESTER ROAD ARUNDEL
27/11/2013 AT JUNCTION OF U MALTRAVERS STREET Veh 1 Car Go/head W to E
R1: A 27 1745 hrs Veh 2 Car 45 Go/head W to E Dri M 45 Serious
R2: U Darkness: street lights present
E 501,333 Dry
N 106,904 Fine without high winds
30 mph

Causation Factor: **Participant:** **Confidence:**
1st: Failed to look properly Vehicle 1 Possible
2nd: Failed to judge other persons path or speed Vehicle 1 Possible
VEH 2 TRAVELLING EAST ON ROUNDABOUT WHEN VEH WAS HIT FROM BEHIND BY VEH 1.

140099 Friday A27 ARUNDEL 100M WEST OF U
21/02/2014 JARVIS ROAD Veh 1 Car 33 Go/head E to W Dri M 33 Slight
R1: A 27 0935 hrs Veh 2 Goods < 3.5t 68 Wait go ahead held E to W Dri M 68 Slight
Daylight:street lights present Veh 3 Car 55 Wait go ahead held E to W
E 500,550 Wet/Damp Veh 4 Car 34 Wait go ahead held E to W
N 107,082 Fine without high winds
60 mph

Causation Factor: **Participant:** **Confidence:**
1st: Failed to look properly Vehicle 1 Very Likely
2nd: Failed to judge other persons path or speed Vehicle 1 Very Likely
VEHICLE 1 TRAVELLING WEST WHEN VEHICLES IN FRONT SLOW FOR REASON UNKNOWN. VEHICLE 1 FAILS TO SLOW ADEQUATELY AND COLLIDES WITH REAR OF VEHICLE 2 WHICH COLLIDES WITH VEHICLE 3 INTO VEHICLE 4.

Details of Personal Injury Accidents for Period - **01/06/2010** to **31/05/2015** (60) months

Selection:

Selected using Manual Selection

Notes:

Police Ref.	Day	Location Description	Vehicles					Casualties					
			Veh No	Type	Age	Manv	Dir	Class	Sex	Age	Sev		
Road No.	Date												
2nd Road No.	Time												
Grid Ref.	D/L												
	R.S.C												
	Weather												
	Speed												
	Account of Accident												
Causation Factor:													

1306645 Saturday A27 ARUNDEL 258M EAST OF A284
07/12/2013
R1: A 27 1705 hrs
Darkness: street lights present
E 503,247 Dry
N 105,798 Fine without high winds
50 mph

Veh 1	Car	82	Go/head	W	to E				
Veh 2	Car		Go/head	E	to W				
Veh 3	Car	21	Go/head	E	to W	Dri	F	21	Slight
Veh 3	Car	21	Go/head	E	to W	RSP	M	17	Slight

Causation Factor:

1st: Failed to look properly

Participant:

Vehicle 1

Confidence:

Very Likely

VEHICLE ONE TRAVELLING IN LANE TWO. VEHICLE ONE SAW VEHICLE TWO INDICATING TO TURN RIGHT INTO LANE TWO. VEHICLE ONE SPED UP BUT FAILED TO REALISE VEHICLE THREE AHEAD IN TRAFFIC. VEHICLE ONE COLLIDED WITH VEHICLE THREE. SLIGHT INJURIES.

1300576 Wednesday A27 ARUNDEL AT JUNCTION OF U
30/01/2013 THE CAUSEWAY
R1: A 27 0740 hrs
R2: U Daylight:street lights present
E 502,273 Dry
N 106,597 Fine without high winds
40 mph

Veh 1	Car	50	Turning left	S	to W				
Veh 2	Car	23	Turning left	S	to W	Dri	F	23	Slight

Causation Factor:

1st: Careless/Reckless/In a hurry

Participant:

Vehicle 1

Confidence:

Possible

VEH2 TRAVELLING WEST IN ROAD APPROACHING RBT TO TURN LEFT. AS V2 WAS ON RBT VEH ALSO TRAVELLING WEST TRIED TO OVERTAKE V2 HITTING SAME ON FRONT O/S WING CAUSING DAMAGE, AND KNOCKING V2 ONTO PAVEMENT.V1 FAILED TO STOP CONTINUED WEST. V2 FOLLOWED FLASHING HEADLAMPS, GOT VRM OF V1 & DECIDED TO CONTINUE ON ROUTE.THIS THEN LINKS TO CRS 2013/586.

1300586 Wednesday A27 ARUNDEL ARUNDEL AT
30/01/2013 JUNCTION OF C17 FORD RD
R1: A 27 0745 hrs
R2: C 17 Daylight:street lights present
E 501,363 Dry
N 106,849 Fine without high winds
40 mph

Veh 1	Car	50	Go/head	E	to N				
Veh 2	Car	23	Turning right	E	to N	Dri	F	23	Slight

Causation Factor:

1st: Aggressive driving

Participant:

Vehicle 1

Confidence:

Possible

CIRCS INCLUDE LINK CRS 2013/576 AND DUE TO THIS RTC, V2 FOLLOWED V1 FLASHING HEADLAMPS, GOT VRM OF V1 & DECIDED TO CONTINUE ON ROUTE. V2 GOT TO RBT AT JUNC A27/C17 INDICATED TO TURN RIGHT ONTO A284. WAS ON RBT WHEN V1 BRAKED AND SWERVED TO RIGHT KNOCKING V2 ONTO RBT. IN BOTH IMPACTS V2 DRIVERS HEAD HIT SIDE WINDOW OF CAR CAUSING INJURY/WHIPLASH. V1 DROVE OFF TOWARDS CHICHESTER

Details of Personal Injury Accidents for Period - **01/06/2010** to **31/05/2015** (60) months

Selection:

Selected using Manual Selection

Notes:

Police Ref.	Day	Location Description	Vehicles					Casualties				
			Veh No	Type	Age	Manv	Dir	Class	Sex	Age	Sev	
Road No.	Date											
2nd Road No.	Time											
Grid Ref.	D/L											
	R.S.C											
	Weather											
	Speed											
	Account of Accident											
Causation Factor:												

1401957 Friday A27 ARUNDEL AT JUNCTION OF U
11/04/2014 FITZALAN ROAD

Veh 1	Car	30	Go/head	W	to E				
R1: A 27	1545 hrs	Veh 2	Car	65	Wait go ahead held	W	to E	Dri	M 65 Slight
R2: U	Daylight:street lights present	Veh 3	Car	30	Wait go ahead held	W	to E		
E 501,595	Dry								
N 106,674	Fine without high winds 40 mph								

Causation Factor:

1st: Failed to look properly
2nd: Failed to judge other persons path or speed

Participant:

Vehicle 1
Vehicle 1

Confidence:

Possible
Possible

VEHICLES TRAVELLING EAST IN ROAD. V2 AND V3 STOPPED DUE TO STATIONERY/ SLOW MOVING QUEUED TRAFFIC. V1 FOR REASON UNKNOWN DROVE IN TO REAR OF V2, PUSHING IT INTO REAR OF V3. ALL VEHICLES STOPPED AND EXCHANGED DETAILS. PASSING POLICE VEHICLE STOPPED, BUT AS IT WAS INDICATED DAMAGE ONLY DROVE OFF AS SEC 170 WAS BEING COMPLIED WITH. DRIVER OF V2 SUBSEQUENTLY HAS INJURED BACK.

1402029 Tuesday A27 ARUNDEL BY-PASS ARUNDEL
15/04/2014 150M WEST OF U THE CAUSEWAY

Veh 1	Goods > 7.5t	36	Go/head	W	to E				
R1: A 27	1141 hrs	Veh 2	Car	56	Go/head	W	to E	Dri	F 56 Serious
	Daylight:street lights present	Veh 3	Goods < 3.5t	63	Go/head	E	to W	Dri	M 63 Slight
E 501,955	Dry	Veh 3	Goods < 3.5t	63	Go/head	E	to W		F 63 Slight
N 106,584	Fine without high winds 40 mph								

Causation Factor:

1st: Failed to look properly

Participant:

Vehicle 1

Confidence:

Very Likely

VEHICLE 1 TRAVELLING EASTBOUND ARUNDEL BY PASS FOR REASONS UNKNOWN DROVE INTO THE BACK OF A SLOW MOVING V2 SPINNING IT AROUND INTO THE OPPOSING CARRIAGEWAY AND INTO THE PATH OF V3 CAUSING DAMAGE TO ALL 3 VEHICLES AND SERIOUS HIP AND LEG INJURIES TO THE DRIVER OF V2.

1204391 Sunday A27 ARUNDEL ROAD WALBERTON
26/08/2012 AT JUNCTION OF B2132 YAPTON
LANE

Veh 1	Goods < 3.5t	22	Turning right	W	to S				
R1: A 27	0726 hrs	Veh 2	Pedal cycle	46	Go/head	E	to W	Dri	M 46 Serious
R2: B 2132	Daylight:street lights present								
E 497,412	Dry								
N 106,839	Fine without high winds 70 mph								

Causation Factor:

1st: Dazzling sun
2nd: Failed to look properly

Participant:

Vehicle 1
Vehicle 1

Confidence:

Possible
Very Likely

VEH 1 TRAVELLING E/B ON A27 AND APPROACHED EXIT/ONSLIP TO CROSS W/B CARRIAGEWAY WITH THE INTENTION OF GOING STRAIGHT ACROSS TO YAPTON LANE. VEH 2 (PEDAL CYCLE) TRAVELLING W/B ALONG A27 APPROACHING THE JUNCTION, WITH THE INTENTION OF CONTINUING IN THIS DIRECTION, TOWARDS FONTWELL ALONG THE A27. VEH 1 PULLED OUT OF THE JUNCTION TO CROSS THE A27 AND HIT VEH 2 TO THE OFFSIDE.

Details of Personal Injury Accidents for Period - 01/06/2010 to 31/05/2015 (60) months

Selection:

Selected using Manual Selection

Notes:

Police Ref.	Day	Location Description	Vehicles					Casualties					
			Veh No	Type	Age	Manv	Dir	Class	Sex	Age	Sev		
Road No.	Date												
2nd Road No.	Time												
Grid Ref.	D/L												
	R.S.C												
	Weather												
	Speed												
	Account of Accident												
Causation Factor:													

1403290 Tuesday A27 CROSSBUSH AT JUNCTION OF
10/06/2014 A284 LYMINSTER ROAD
Veh 1 Car 31 Turning left E to S
R1: A 27 0833 hrs Veh 2 Car 17 Go/ahead RH bend S to NE Dri M 17 Slight
R2: A 284 Daylight:street lights present Veh 2 Car 17 Go/ahead RH bend S to NE FSP F 15 Slight
E 502,928 Dry
N 105,856 Fine without high winds
40 mph

Causation Factor:

1st: Disobeyed automatic traffic signal

Participant:

Vehicle 1

Confidence:

Possible

THE DRIVER OF V2 ALLEGES THAT DRIVER OF V1 TRAVELLING WEST HAS CONTRAVENED A RED ATS CAUSING THE COLLISION.

1403377 Tuesday A27 ARUNDEL ROAD CROSSBUSH
17/06/2014 500M EAST OF A284 LYMINSTER
ROAD
Veh 1 Goods > 7.5t 71 O/take on n/side E to W
R1: A 27 1720 hrs Veh 2 Car 25 Go/head E to W Dri M 25 Slight
Daylight:street lights present
E 503,259 Dry
N 105,790 Fine without high winds
60 mph

Causation Factor:

1st: Careless/Reckless/In a hurry

Participant:

Vehicle 1

Confidence:

Very Likely

V2 TRAVELLING WEST AT APPROX. 60 MPH IN OUTSIDE LANE. V1 UNDERTAKING V2 IN INSIDE LANE. V1 PULLED INTO PATH OF V2.

1401907 Tuesday A27 ARUNDEL 281M WEST OF A284
08/04/2014 LYMINSTER ROAD
Veh 1 Car 41 Go/head E to W
R1: A 27 1921 hrs Veh 2 Pedal cycle 50 Go/head E to W Dri M 50 Serious
Daylight:street lights present
E 503,089 Dry
N 105,824 Fine without high winds
50 mph

Causation Factor:

1st: Failed to look properly

Participant:

Vehicle 1

Confidence:

Very Likely

V2 CYCLIST IN LANE ONE OF TWO LANE CARRIAGEWAY WHEN V1 HITS CYCLIST WITH WING MIRROR TO N/S.

1404230 Thursday A27 ARUNDEL ROAD ARUNDEL AT
24/07/2014 JUNCTION OF U DRIVEWAY
OUTSIDE NA
Veh 1 Goods > 7.5t 62 Go/head E to W
R1: A 27 0849 hrs Veh 2 Car 71 Stopping E to W FSP F 71 Slight
R2: U Daylight:street lights present Veh 3 Car 26 Stopping E to W
E 500,534 Dry Veh 4 Car 30 Turning left E to S
N 107,090 Fine without high winds
60 mph

Details of Personal Injury Accidents for Period - **01/06/2010** to **31/05/2015** (60) months

Selection:

Selected using Manual Selection

Notes:

Police Ref.	Day	Location Description	Vehicles				Casualties					
			Veh No	Type	Age	Manv / Dir / Class	Sex	Age	Sev			
Road No.	Date											
2nd Road No.	Time											
Grid Ref.	D/L											
	R.S.C											
	Weather											
	Speed											
	Account of Accident											

Causation Factor:

Causation Factor: Failed to look properly
Participant: Vehicle 1
Confidence: Very Likely
 V1 WAS TRAVELLING WESTBOUND ALONG A27 ARUNDEL ROAD BEHIND V2. V2 WAS FOLLOWING V3. V3 STOPPED TO ALLOW AN UNKNOWN VEHICLE TO TURN INTO DRIVEWAY. V2 STOPPED, V1 FAILED TO STOP IN TIME AND STRUCK REAR OF V2. V2 IN TURN COLLIDED WITH REAR OF V3.

1404705 Thursday A27 ARUNDEL AT JUNCTION OF
 14/08/2014 A284 LYMINSTER ROAD
R1: A 27 0650 hrs
R2: A 284 Daylight:street lights present
E 502,902 Dry
N 105,862 Fine without high winds
 40 mph

Causation Factor: Failed to judge other persons path or speed
Participant: Vehicle 1
Confidence: Very Likely
 VEHICLE 2 WESTBOUND IN LANE 2 OF A27 SLOWS AND STOPS AT RED TRAFFIC LIGHT. VEHICLE 1 BEHIND VEHICLE 2 FAILS TO SLOW IN TIME AND FORWARD OVERHANGING CRANE PART OF VEHICLE 1 COLLIDES WITH REAR OF VEHICLE 2.

1404738 Sunday A27 ARUNDEL BY PASS ARUNDEL
 17/08/2014 70M EAST OF C17 FORD ROAD
R1: A 27 1630 hrs
 Daylight:street lights present
E 501,421 Dry
N 106,823 Fine without high winds
 40 mph

Causation Factor: Distraction in vehicle
Participant: Vehicle 1
Confidence: Very Likely
2nd: Failed to judge other persons path or speed
Participant: Vehicle 1
Confidence: Possible
3rd: Failed to look properly
Participant: Vehicle 1
Confidence: Very Likely
 V1 TRAVELLING WESTBOUND IN SLOW MOVING TRAFFIC QUEUING FOR ROUNDABOUT, COLLIDED WITH THE REAR OF V2 (POLICE VEHICLE) PUSHING IT INTO THE REAR OF V3.

1405092 Wednesday A27 ARUNDEL-BY-PASS ARUNDEL
 03/09/2014 63M EAST OF U FORD ROAD
R1: A 27 1553 hrs
 Daylight:street lights present
E 501,426 Dry
N 106,820 Fine without high winds
 40 mph

Causation Factor: Failed to judge other persons path or speed
Participant: Vehicle 1
Confidence: Very Likely
 POLICE CAR (V4) HAS BEEN TRAVELLING WEST WITH BLUE LIGHTS AND SIRENS ACTIVATED. VEHICLE IN EASTBOUND LANE HAS LET POLICE VEHICLE OUT (V2), CAUSING THE CAR BEHIND TO HIT HIM (V1)AND THE CAR BEHIND TO HIT THEM (V3).

Details of Personal Injury Accidents for Period - 01/06/2010 to 31/05/2015 (60) months

Selection:

Selected using Manual Selection

Notes:

Police Ref.	Day	Location Description	Vehicles					Casualties						
			Veh No	Type	Age	Manv	Dir	Class	Sex	Age	Sev			
Road No.	Date													
2nd Road No.	Time													
Grid Ref.	D/L													
	R.S.C													
	Weather													
	Speed													
	Account of Accident													
Causation Factor:														

1405894 Wednesday A27 ARUNDEL 234M EAST OF U
08/10/2014 BINSTEAD LANE Veh 1 Car 20 Go/head W to E Dri F 20 Slight
R1: A 27 0712 hrs
Daylight:street lights present
E 498,603 Wet/Damp
N 107,341 Raining without high winds
70 mph

Causation Factor:

1st: Loss of control

Participant:

Vehicle 1

Confidence:

Very Likely

VEHICLE 1 EASTBOUND IN LANE 2 OF A27 WHEN IT STRIKES STANDING WATER ACROSS BOTH LANES OF A27. DRIVER LOSES CONTROL, STRIKING CENTRAL RESERVATION 'WIRE BARRIER'. VEHICLE 1 REBOUNDS ACROSS BOTH LANES BEFORE EXITING A27 INTO FOLIAGE AND OVERTURNING.

1406024 Wednesday A27 ARUNDEL BY PASS ARUNDEL
15/10/2014 AT JUNCTION OF U THE CAUSEWAY Veh 1 Car 20 Go/head W to SE Dri F 20 Slight
R1: A 27 0752 hrs OUTSIDE AT R/A JUNCTION Veh 2 Goods < 3.5t 51 Wait go ahead held W to SE
R2: U Daylight:street lights present
E 502,181 Dry
N 106,622 Fine without high winds
40 mph

Causation Factor:

1st: Failed to look properly

Participant:

Vehicle 1

Confidence:

Very Likely

2nd: Failed to judge other persons path or speed

Vehicle 1

Very Likely

V1 WAS TRAVELLING BEHIND V2 HEADING EAST ON THE A27 AT ARUNDEL, APPROACHING THE ROUNDABOUT WITH THE CAUSEWAY. V2 STOPPED AT THE ROUNDABOUT FOR ON COMING TRAFFIC. V1 FAILED TO NOTICE V2 HAD STOPPED AND COLLIDED WITH THE REAR OF V2. MINOR INJURY WAS CAUSED TO THE DRIVER OF V1.

1406180 Tuesday A27 ARUNDEL BY PASS ARUNDEL
21/10/2014 300M EAST OF U FORD ROAD Veh 1 Car 33 Go/head SE to NW
R1: A 27 1520 hrs OUTSIDE JUST ON START OF Veh 2 Car 50 Wait go ahead held SE to NW Dri F 50 Slight
Daylight:street lights present Veh 3 Goods > 7.5t 29 Wait go ahead held SE to NW
E 501,468 Wet/Damp
N 106,783 Fine with high winds
40 mph

Causation Factor:

1st: Failed to look properly

Participant:

Vehicle 1

Confidence:

Very Likely

2nd: Distraction in vehicle

Vehicle 1

Possible

DRIVER OF V1 TRAVELLING WESTBOUND ON A27 LOOKED BACK TO CHECK ON CHILD IN REAR SEAT OWING TO NOISE AND WHEN LOOKED FORWARD AGAIN HAD FAILED TO SEE TRAFFIC IN FRONT OF HER HAD COME TO A STAND STILL. V1 COLLIDED INTO REAR OF V2 WHICH HAD AIRBAGS DEPLOYED, V2 WAS SHUNTED INTO V3 LORRY. MINOR BLEEDING NOSE TO DRIVER OF V2.

Details of Personal Injury Accidents for Period - 01/06/2010 to 31/05/2015 (60) months

Selection:

Selected using Manual Selection

Notes:

Police Ref.	Day	Location Description	Vehicles					Casualties						
			Veh No	Type	Age	Manv	Dir	Class	Sex	Age	Sev			
Road No.	Date													
2nd Road No.	Time													
Grid Ref.	D/L													
	R.S.C													
	Weather													
	Speed													
	Account of Accident													
Causation Factor:														

1406654 Tuesday A27 CROSSBUSH 63M SOUTH OF
11/11/2014 A284 LYMINSTER ROAD Veh 1 Car 21 Go/head E to W Dri F 21 Serious
R1: A 27 2038 hrs
Darkness: no street lighting
E 503,010 Wet/Damp
N 105,845 Raining with high winds
50 mph

Causation Factor: **Participant:** **Confidence:**
1st: Rain, sleet, snow, or fog Vehicle 1 Very Likely
2nd: Loss of control Vehicle 1 Very Likely
SINGLE VEHICLE TRAVELLING WESTBOUND LOSES CONTROL FOR UNKNOWN REASON (WEATHER HEAVY RAIN,STANDING WATER)STRIKES PLASTIC BARRIER ROLLS OVER AND LANDS ON CENTRAL RESERVATION.

1500447 Thursday A27 CHICHESTER ROAD ARUNDEL
22/01/2015 200M WEST OF A284 ARUNDEL Veh 1 Car 21 Go/head NW to SE
R1: A 27 0943 hrs ROAD OUTSIDE OS ARUNDEL AND Veh 2 Car 52 Go/head NW to SE Dri M 52 Serious
Daylight:street lights present
E 501,078 Dry
N 107,020 Fine without high winds
60 mph

Causation Factor: **Participant:** **Confidence:**
1st: Careless/Reckless/In a hurry Vehicle 1 Very Likely
2nd: Travelling too fast for conditions Vehicle 1 Very Likely
3rd: Inexperienced or learner driver/rider Vehicle 1
V1 TRAVELLING DOWNHILL, EAST ON A27 HOSPITAL HILL, VEHICLE BRAKED AND SKIDDED BEFORE STRIKING THE REAR OF V2, WHICH WAS SLOWING OR STOPPED IN TRAFFIC.

1407241 Sunday A284 ARUNDEL BY PASS ARUNDEL
30/11/2014 AT JUNCTION OF A27 CHICHESTER Veh 1 Car 66 Wait go ahead held N to SE
R1: A 284 1433 hrs ROAD Veh 2 M/C > 500 cc 77 Go/head N to SE Dri M 77 Slight
R2: A 27 Daylight:street lights present
E 501,361 Dry
N 106,940 Fine without high winds
40 mph

Causation Factor: **Participant:** **Confidence:**
1st: Failed to look properly Vehicle 1 Very Likely
2nd: Failed to judge other persons path or speed Vehicle 1 Very Likely
V2 STATIONARY AT R/A WHEN V1 FAILED TO SEE AND COLLIDED INTO REAR OF V2. RIDER FELL OFF AND BIKE FELL ONTO HIS ANKLE CAUSING MINOR INJURY.

Details of Personal Injury Accidents for Period - 01/06/2010 to 31/05/2015 (60) months

Selection:

Selected using Manual Selection

Notes:

Police Ref.	Day	Location Description	Vehicles					Casualties				
			Veh No	Type	Age	Manv	Dir	Class	Sex	Age	Sev	
Road No.	Date											
2nd Road No.	Time											
Grid Ref.	D/L											
	R.S.C											
	Weather											
	Speed											
	Account of Accident											
Causation Factor:												

1403431 Tuesday A27 THE CAUSEWAY ARUNDEL 89M
10/06/2014 WEST OF U
Veh 1 Goods < 3.5t 28 Go/head S to N
R1: A 27 1145 hrs Veh 2 Goods < 3.5t 37 Go/head S to N Dri M 37 Slight
Daylight:street lights present
E 502,504 Dry
N 106,398 Fine without high winds
60 mph

Causation Factor:

1st: Failed to look properly
2nd: Sudden braking

Participant:

Vehicle 1
Vehicle 1

Confidence:

Possible
Possible

VEH 2 DRIVING WHEN VEH 1 DROVE INTO BACK OF VEH 2 CAUSING DAMAGE AND SLIGHT INJURY. DETAILS HAVE BEEN EXCHANGED.

1405853 Tuesday A27 ARUNDEL AT JUNCTION OF
07/10/2014 A284 LYMINSTER ROAD
Veh 1 Car 23 Go/head E to W
R1: A 27 1530 hrs Veh 2 Goods < 3.5t 22 Wait go ahead held E to W Dri M 22 Slight
R2: A 284 Daylight:street lights present
E 502,893 Dry
N 105,863 Fine without high winds
50 mph

Causation Factor:

1st: Poor turn or manoeuvre

Participant:

Vehicle 1

Confidence:

Possible

VEH 2 STATIONARY AND VEH 1 FAILED TO STOP AND HIT REAR OF VEH 2. BOTH DRIVERS STOPPED AND EXCHANGED PARTIAL DETAILS. DRIVER OF VEH 2 HAS SLIGHT INJURY TO BACK

1501161 Thursday A27 CHICHESTER ROAD ARUNDEL
26/02/2015 AT JUNCTION OF U OUTSIDE
ARUNDEL AND DISTRICT
Veh 1 Car 20 Go/head SE to W
R1: A 27 0840 hrs Veh 2 Car 19 Go/head SE to W FSP F 28 Slight
R2: U Daylight:street lights present Veh 2 Car 19 Go/head SE to W Dri F 19 Slight
E 501,017 Wet/Damp Veh 3 Car 30 Turning right SE to N
N 107,036 Raining without high winds
40 mph

Causation Factor:

1st: Failed to look properly
2nd: Failed to judge other persons path or speed

Participant:

Vehicle 1
Vehicle 1

Confidence:

Possible
Possible

ALL VEHICLES TRAVELLING WEST IN RD. V3 STOPPED INDICATING TO TURN RIGHT INTO HOSPITAL. V2 PULLED UP AND STOPPED BEHIND. V3 STARTED TO MOVE OFF, V1 RAN INTO REAR OF V2 CAUSING DAMAGE. ALL PARTIES PULLED IN TO HOSPITAL CAR PARK AND EXCHANGED DETAILS. DRIVER AND PASSENGER OF V2 SUFFERED WHIPLASH INJURIES.

Details of Personal Injury Accidents for Period - 01/06/2010 to 31/05/2015 (60) months

Selection:

Selected using Manual Selection

Notes:

Police Ref.	Day	Location Description	Vehicles						Casualties			
			Veh No	Type	Age	Manv	Dir	Class	Sex	Age	Sev	
Road No.	Date											
2nd Road No.	Time											
Grid Ref.	D/L											
	R.S.C											
	Weather											
	Speed											
	Account of Accident											
Causation Factor:												

1501164 Thursday A27 ARUNDEL ROAD ARUNDEL AT
26/02/2015 JUNCTION OF A27 CROSSBUSH
ROUNDABOUT
R1: A 27 1830 hrs Veh 1 Car 24 Wait to turn right N to W
R2: A 27 Darkness: street lighting Veh 2 Car 63 Wait to turn right N to W Dri M 63 Slight
E 502,932 Dry
N 105,869 Fine without high winds
40 mph

Causation Factor: **Participant:** **Confidence:**
1st: Failed to look properly Vehicle 1 Very Likely
2nd: Failed to judge other persons path or speed Vehicle 1 Very Likely
V2 STATIONARY ON CROSSBUSH ROUNDABOUT WAITING AT RED TRAFFIC LIGHT TO PROCEED CLOCKWISE ONTO THE A284 LYMINSTER ROAD. V1 WHICH HAD BEEN STATIONARY BEHIND HIM THEN SUDDENLY DROVE INTO THE REAR OF V2.

1502314 Monday A284 LYMINSTER ROAD LYMINSTER
27/04/2015 AT JUNCTION OF A27 ARUNDEL
ROAD OUTSIDE AT JUNCTION
R1: A 284 0940 hrs Veh 1 Goods 3.5 - 7.5t33 Go/ahead RH bend S to NE
R2: A 27 Daylight:street lights present Veh 2 Goods < 3.5t 56 Go/ahead LH bend NE to S Dri M 56 Serious
E 502,862 Dry
N 105,856 Fine without high winds
40 mph

Causation Factor: **Participant:** **Confidence:**
1st: Inexperience of driving on the left Vehicle 1 Possible
2nd: Failed to look properly Vehicle 1 Very Likely
3rd: Illegal turn or direction of travel Vehicle 1 Very Likely
4th: Disobeyed Give Way or Stop sign or markings Vehicle 1 Very Likely
V1 TRAVELLING NORTH DROVE ON INCORRECT SIDE OF CENTRAL RESERVATION INTO PATH OF ONCOMING SOUTH BOUND TRAFFIC COLLIDING WITH VEHICLE 2. DRIVER V2 SUFFERED SERIOUS INJURY (BROKEN STERNUM)

1500831 Monday A27 ARUNDEL AT JUNCTION OF A27
09/02/2015 ON SLIP TO ARUNDEL ROAD
OUTSIDE ON JUNCTION
R1: A 27 2046 hrs Veh 1 Car 85 Go/ahead LH bend N to E FSP M 86 Slight
R2: A 27 Darkness: street lights present
E 502,836 Frost/Ice
N 105,972 Fine without high winds
60 mph

Causation Factor: **Participant:** **Confidence:**
1st: Distraction in vehicle Vehicle 1 Very Likely
2nd: Visor or windscreen dirty or scratched Vehicle 1 Very Likely
V1 TRAVELLING SOUTH ALONG A27. WINDOW SUDDENLY MISTS UP AND VV1 COLLIDES WITH DEVIATION MARKER.

Details of Personal Injury Accidents for Period - **01/06/2010** to **31/05/2015** (60) months

Selection:

Selected using Manual Selection

Notes:

Police Ref.	Day	Location Description	Vehicles					Casualties					
			Veh No	Type	Age	Manv	Dir	Class	Sex	Age	Sev		
Road No.	Date												
2nd Road No.	Time												
Grid Ref.	D/L												
	R.S.C												
	Weather												
	Speed												
	Account of Accident												
Causation Factor:													

1501541	Sunday	A27 ARUNDEL ROAD ARUNDEL.	Veh 1	Car	67	Go/head	E	to W					
R1: A 27	15/03/2015	300M EAST OF A284 LYMINSTER ROAD OUTSIDE NONE NEAR.	Veh 2	Car	68	Stopping	E	to W	Dri	F	68	Slight	
E 503,100	0941 hrs	Daylight:street lights present											
N 105,823	Dry	Fine without high winds											
	50 mph												

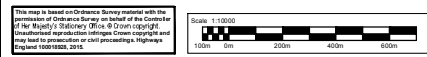
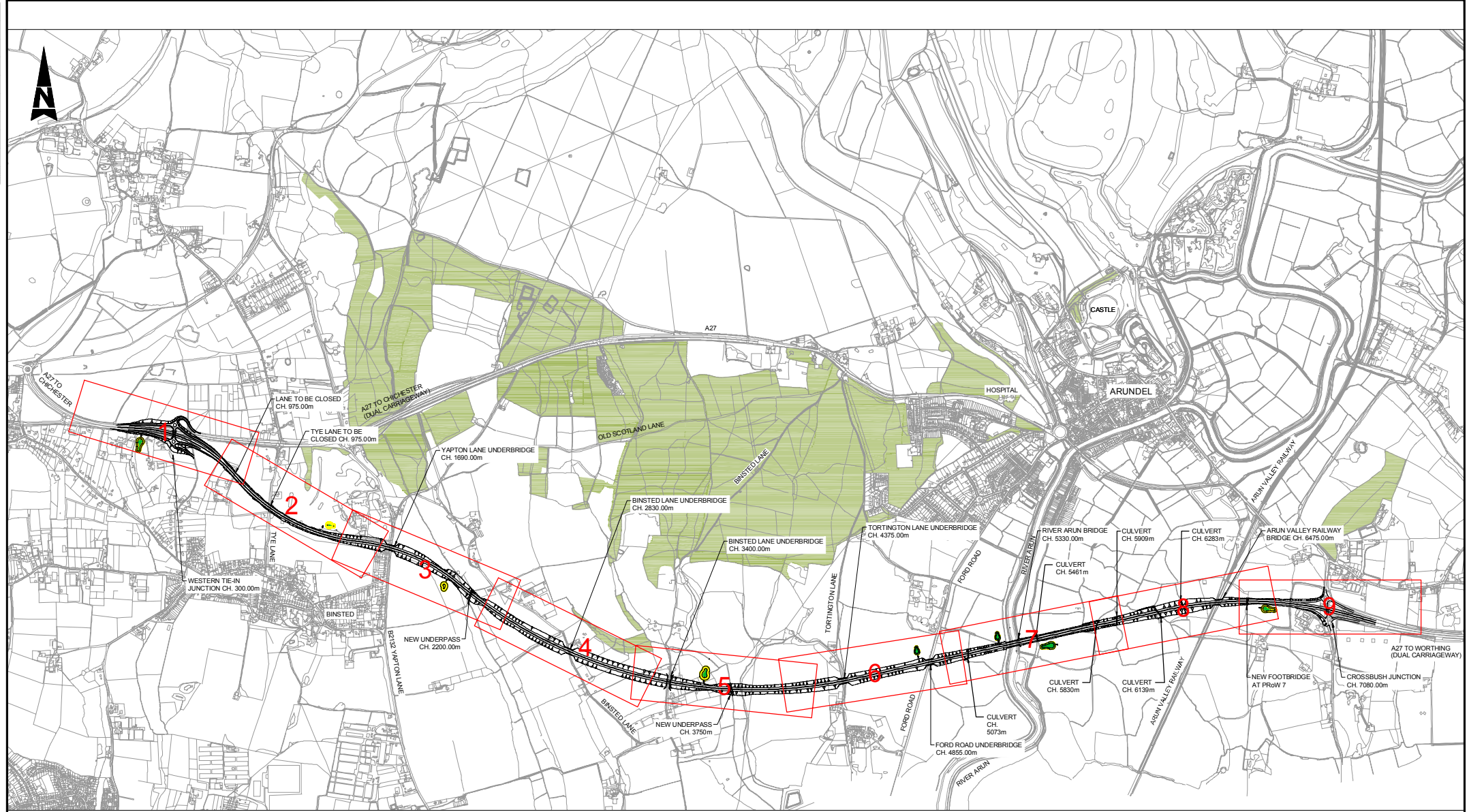
Causation Factor:	Participant:	Confidence:
1st: Failed to judge other persons path or speed	Vehicle 1	Very Likely
V1 BEHIND V2 AND BOTH IN LANE 2 OF WESTBOUND LANES OF A27 APPROACHING CROSSBUSH JUNCTION A27/A284. V2 SLOWED FOR QUEUE OF TRAFFIC AHEAD, AND V1 WAS UNABLE TO STOP IN TIME AND IMPACTED WITH THE REAR OF V2.		

Appendix J

DRAINAGE STRATEGY

DO NOT SCALE

100
0 10
Metres



NOTES:
1. FOR LAYOUTS REFER TO DRG. NOS. HE55123-WSP-HDG-A27AR-DG-D-0701 TO 0709.

KEY:
 ATTENUATION POND

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction	Maintenance / Cleaning	Use	Decommissioning / Demolition

POI	Date	Description	By	CHK'd	APP'd

Drawing Status: **WORK IN PROGRESS** Substity: **S0**

Westbrook Mills
Borough Road
Godalming
Surrey
GU7 2AZ
Tel: +44 (0)1483 528400
Fax: +44 (0)1483 529599
www.wsp-pb.co.uk

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Working on behalf of

Project Title: **REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS**

Drawing Title: **DRAINAGE STRATEGY OPTION 5B KEY PLAN**

Scale	Drawn	Checked	Approved	Authorised
1:10000	KM	KM	KM	---
Original Size	A1	---	---	---

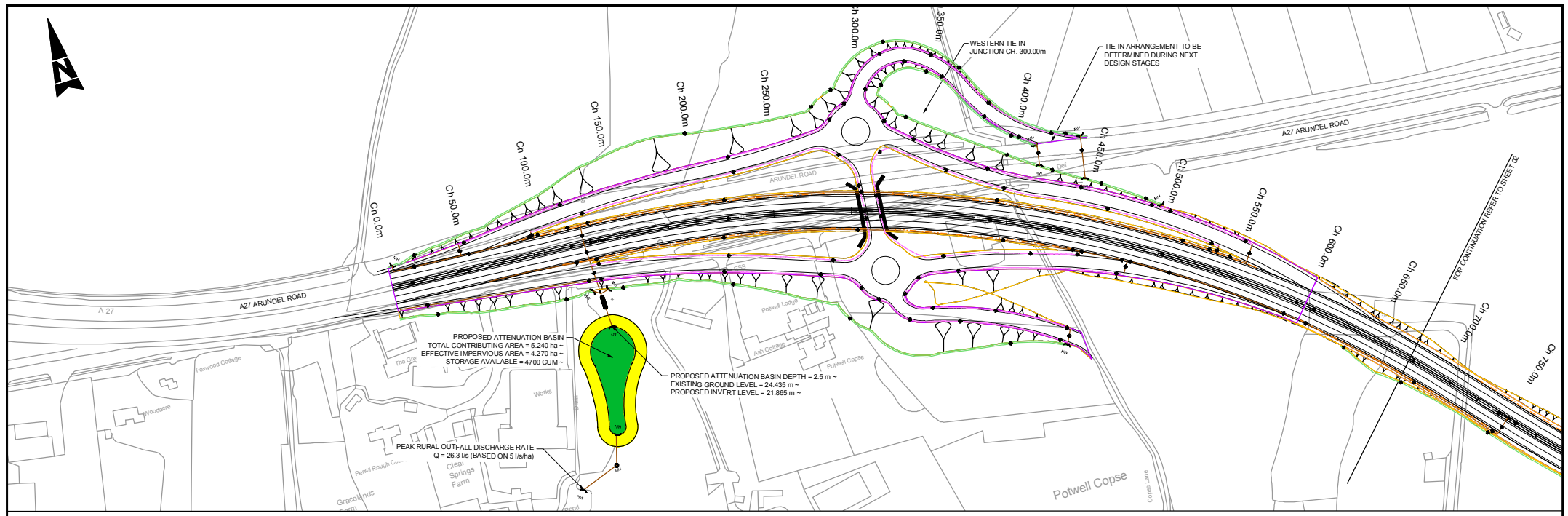
Project Ref. No: **70019688**

Project: **HE551523 - WSP - HDG - A27AR - DR - D - 0700**

Revision: **P01.1**

DO NOT SCALE

Millimetres
0 10 20 30 40 50



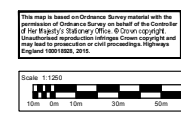
NEW WESTERN TIE-IN JUNCTION CH. 300.00m

Datum = 10.0m AOD																
Existing Ground Level	25.413	25.413	24.598	24.344	24.435	24.991	25.928	27.974	29.387	28.820	28.628	29.331	28.954	27.533	26.333	26.914
Design Level (MC00)	25.413	24.692	24.598	24.314	24.435	25.016	25.988	26.238	26.718	27.106	27.404	27.610	27.726	27.751	27.685	27.529
Level Difference	0.000	-0.124	0.009	-0.001	-0.025	0.284	1.748	2.691	1.742	1.262	1.795	0.881	-0.157	-1.292	-0.536	
Horizontal Geometry	Straight Length = 93.4		Right Transition RL = 63360.0 L = 88.0				Right Arc Radius = 720.0 Length = 501.4					R Tran RL = 31680				
Vertical Geometry	Straight Gradient = -1.5% Length = 39.7		Sag Curve K = 50.0 Length = 139.7			Straight Gradient = 1.3% Length = 42.9		Hog Curve K = -275.0 Length = 856.7								
Superelevation	Q=2.500		Q=2.500		Q=7.000		Q=7.000									
Chainage	0.0	50.0	100.0	150.0	200.0	250.0	300.0	350.0	400.0	450.0	500.0	550.0	600.0	650.0	700.0	

FOR CONTINUATION REFER TO SHEET 06

NOTES:
1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0700.

- KEY:
- MANHOLE
 - SOAKAWAY
 - GULLY
 - CATCHPIT
 - OUTLET
 - HEADWALL
 - PETROL INTERCEPTOR
 - ◆ FLOW DIRECTION
 - DRAINAGE CARRIER
 - SEWER
 - FILTER DRAIN
 - FILTER DRAIN ON BRIDGE DECK
 - CATEGORY 3 DEFECT
 - CATEGORY 4 DEFECT
 - CATEGORY 5 DEFECT
 - ATTENUATION POND
 - DRAINAGE DITCH



SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction	
Maintenance / Cleaning	
Use	
Decommissioning / Demolition	

WORK IN PROGRESS

WSP
Westbrook Mills
Borough Road
Godalming
Surrey
GU7 2AZ
Tel: +44 (0)1483 528400
Fax: +44 (0)1483 528989
www.wsp-gb.co.uk

Working on behalf of
highways
england

REGIONAL INVESTMENT PROGRAMME
A27 ARUNDEL BYPASS

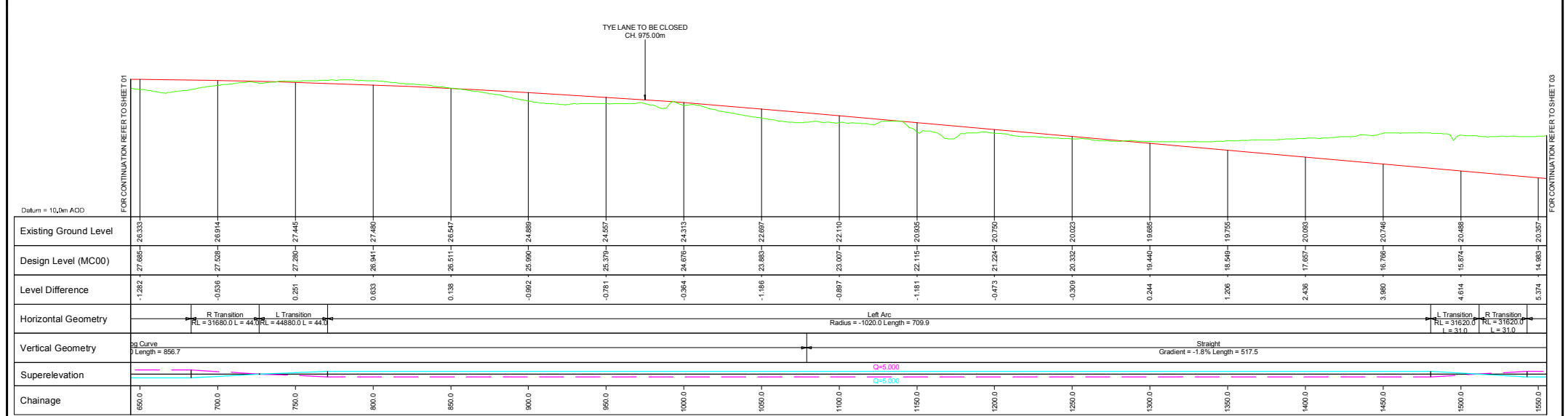
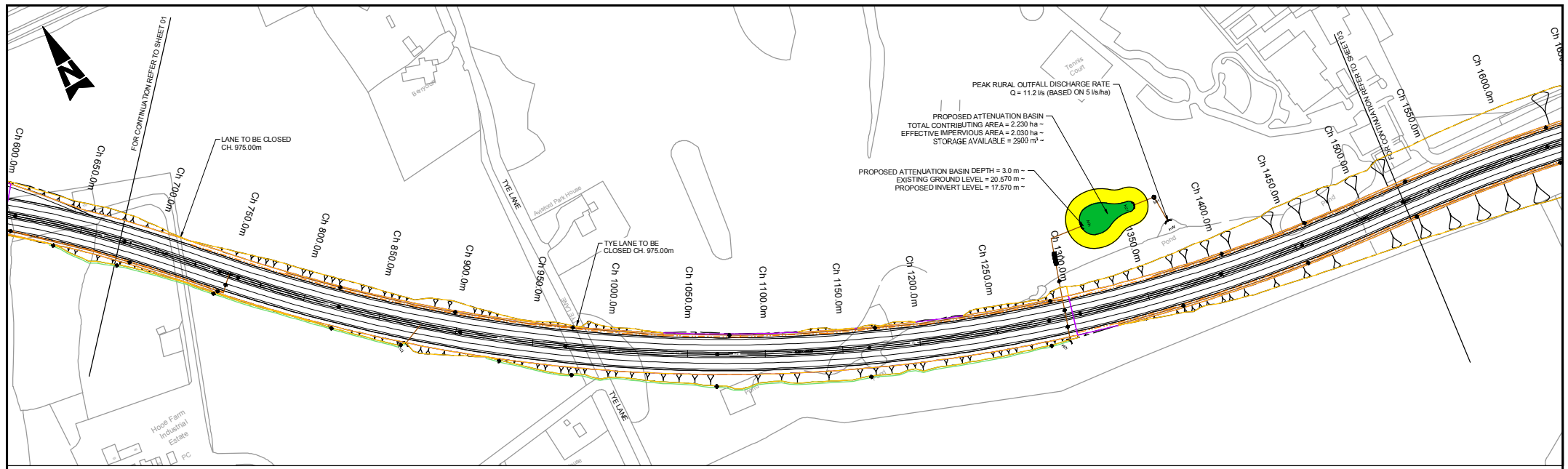
DRAINAGE PROPOSALS
LAYOUT OPTION 5B ALTERNATIVE
SHEET 1 OF 9

Scale: 1:1250
Original Size: A1

Project Ref: No. HE551523 - WSP - HDG - A27AR - DR - D - 0701
Project Ref: No. 70019688
Revision: P01.1

DO NOT SCALE

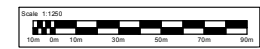
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NOTES:
1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0700.

- KEY:
- MANHOLE
 - SOAKAWAY
 - GULLY
 - CATCHPIT
 - OUTLET
 - HEADWALL
 - PETROL INTERCEPTOR
 - FLOW DIRECTION
 - DRAINAGE CARRIER
 - SEWER
 - FILTER DRAIN
 - FILTER DRAIN ON BRIDGE DECK
 - CATEGORY 3 DEFECT
 - CATEGORY 4 DEFECT
 - CATEGORY 5 DEFECT
 - ATTENUATION POND
 - DRAINAGE DITCH

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SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction	Maintenance / Cleaning	Use	Decommissioning / Demolition

Rev.	Date	Description	By	Chk'd	App'd
PO1.1		First Issue			

WORK IN PROGRESS

WSP
Westbrook Mills
Borough Road
Godalming
Surrey
GU7 2AZ
Tel: +44 (0)1483 528400
Fax: +44 (0)1483 528989
www.wsp-gb.co.uk

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REGIONAL INVESTMENT PROGRAMME
A27 ARUNDEL BYPASS

DRAINAGE PROPOSALS
LAYOUT OPTION 5B ALTERNATIVE
SHEET 2 OF 9

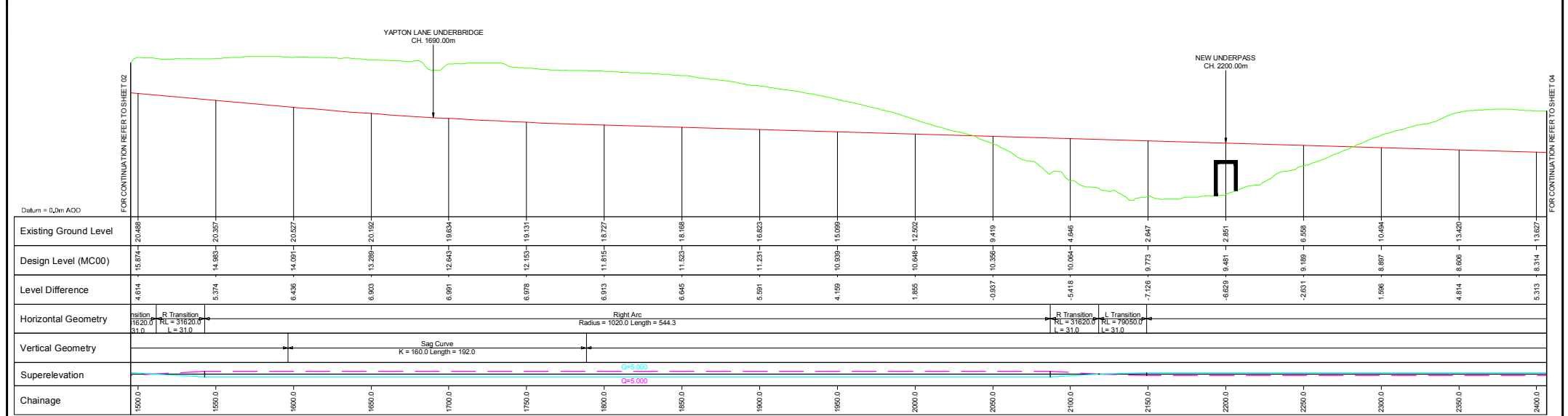
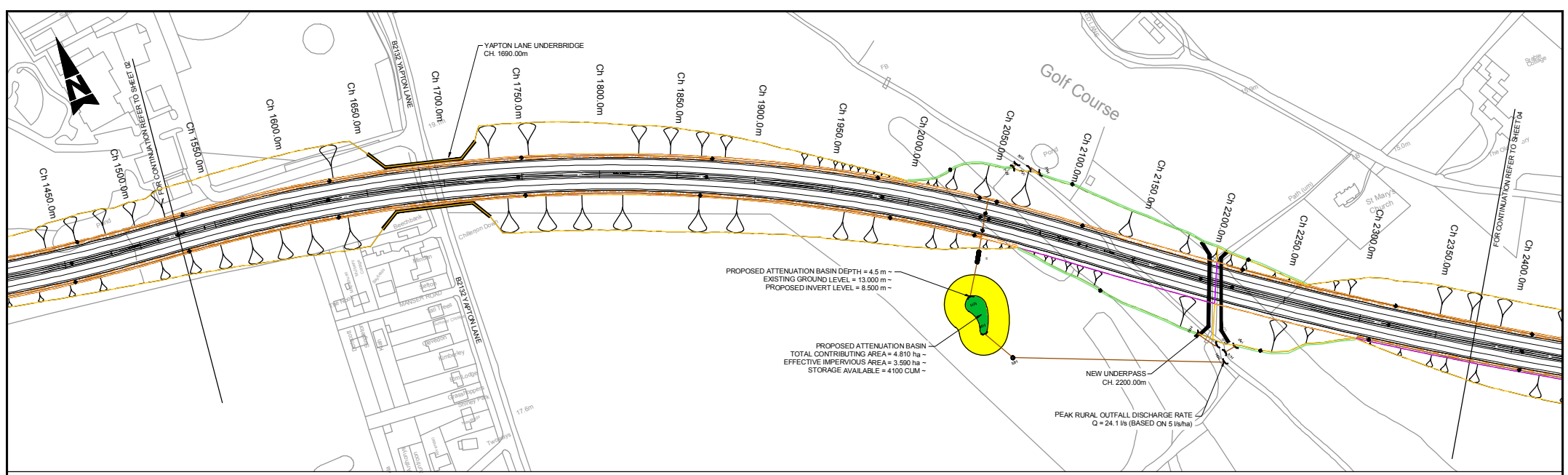
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Original Size A1

Drawing Number	Originator	Revision	Project Ref. No.
	HE551523 - WSP - HDG -		70019688

Client: HE551523 - DR - D - 0702

DO NOT SCALE



NOTES:

1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0700.

KEY:

- MANHOLE
- SOAKAWAY
- GULLY
- CATCHPIT
- OUTLET
- HEADWALL
- PETROL INTERCEPTOR
- FLOW DIRECTION
- DRAINAGE CARRIER
- SEWER
- FILTER DRAIN
- FILTER DRAIN ON BRIDGE DECK
- CATEGORY 3 DEFECT
- CATEGORY 4 DEFECT
- CATEGORY 5 DEFECT
- ATTENUATION POND
- DRAINAGE DITCH

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Scale 1:1250

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction	
Maintenance / Cleaning	
Use	
Decommissioning / Demolition	

POI 1	First Issue			
Rev.	Date	Description	By	App'd

WORK IN PROGRESS

WSP
Westbrook Mills
Borough Road
Godalming
Surrey
GU7 2AZ
Tel: +44 (0)1483 529400
Fax: +44 (0)1483 529899
www.wsp-gb.co.uk

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**REGIONAL INVESTMENT PROGRAMME
A27 ARUNDEL BYPASS**

**DRAINAGE PROPOSALS
LAYOUT OPTION 5B ALTERNATIVE
SHEET 3 OF 9**

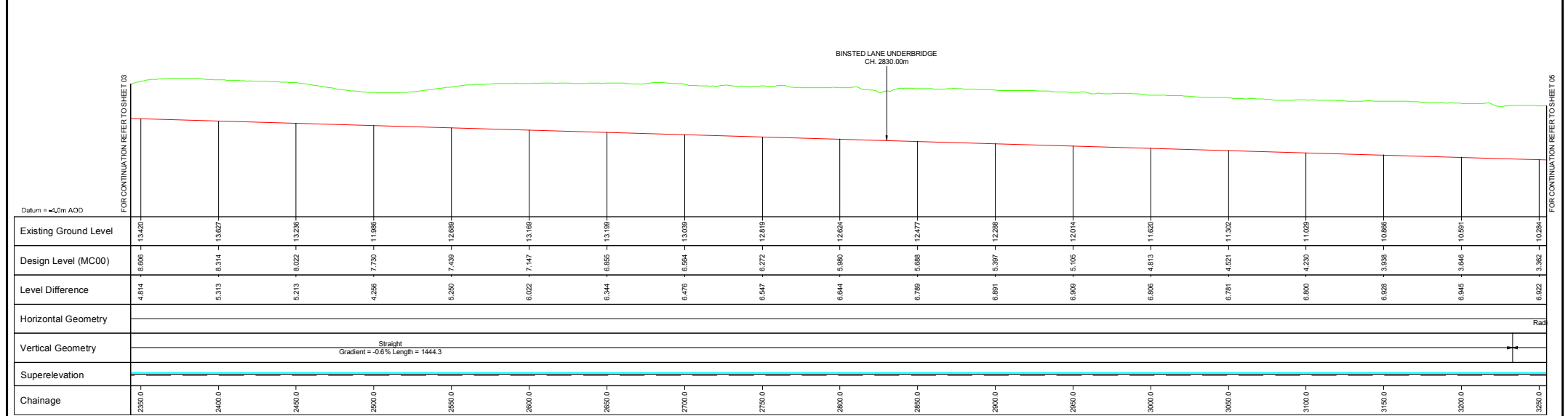
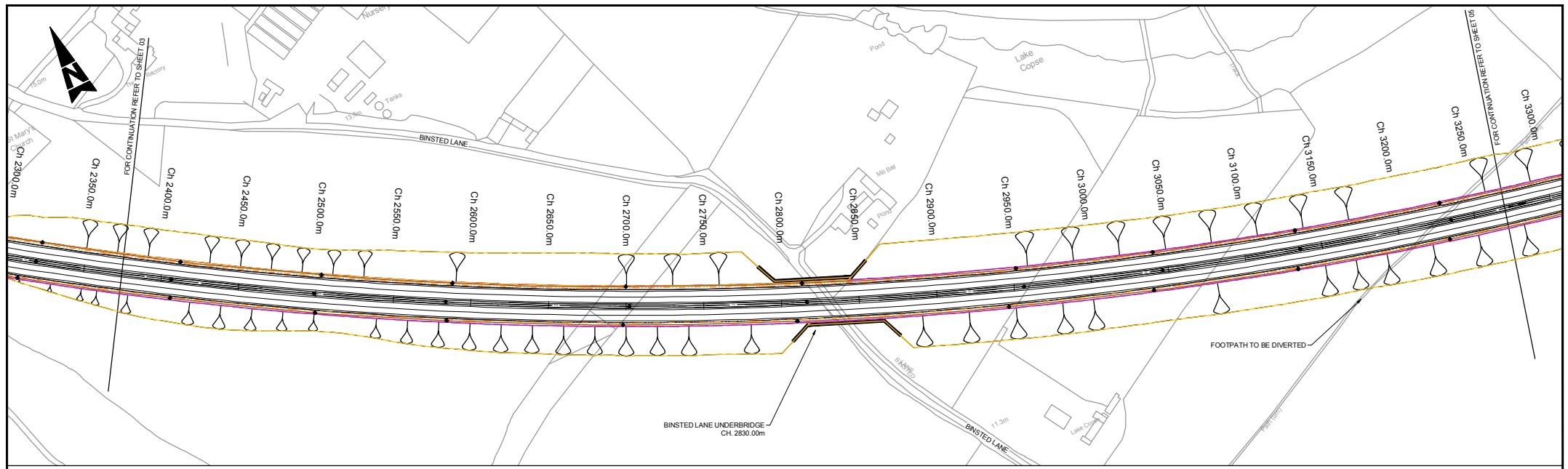
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Authorised	---

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Date	---
Date	---

Project Ref. No.	HE551523 - WSP - HDG - A27AR - DR - D - 0703
Project Ref. No.	70019688
Location	---
Issue	---
Revision	---
Number	---

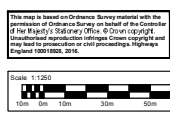
DO NOT SCALE

Millimetres
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NOTES:
1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0700.

- KEY:**
- M MANHOLE
 - S SOAKAWAY
 - G GULLY
 - C CATCHPIT
 - O OUTLET
 - H HEADWALL
 - P PETROL INTERCEPTOR
 - F FLOW DIRECTION
 - D DRAINAGE CARRIER
 - S SEWER
 - F FILTER DRAIN
 - F FILTER DRAIN ON BRIDGE DECK
 - C CATEGORY 3 DEFECT
 - C CATEGORY 4 DEFECT
 - C CATEGORY 5 DEFECT
 - A ATTENUATION POND
 - D DRAINAGE DITCH



SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Category	Description	By	Chk	App
Construction				
Maintenance / Cleaning				
Use				
Decommissioning / Demolition				

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WSP
Westbrook Mills
Borough Road
Godalming
Surrey
GU7 2AZ
Tel: +44 (0)1483 528400
Fax: +44 (0)1483 528989
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**REGIONAL INVESTMENT PROGRAMME
A27 ARUNDEL BYPASS**

**DRAINAGE PROPOSALS
LAYOUT OPTION 5B ALTERNATIVE
SHEET 4 OF 9**

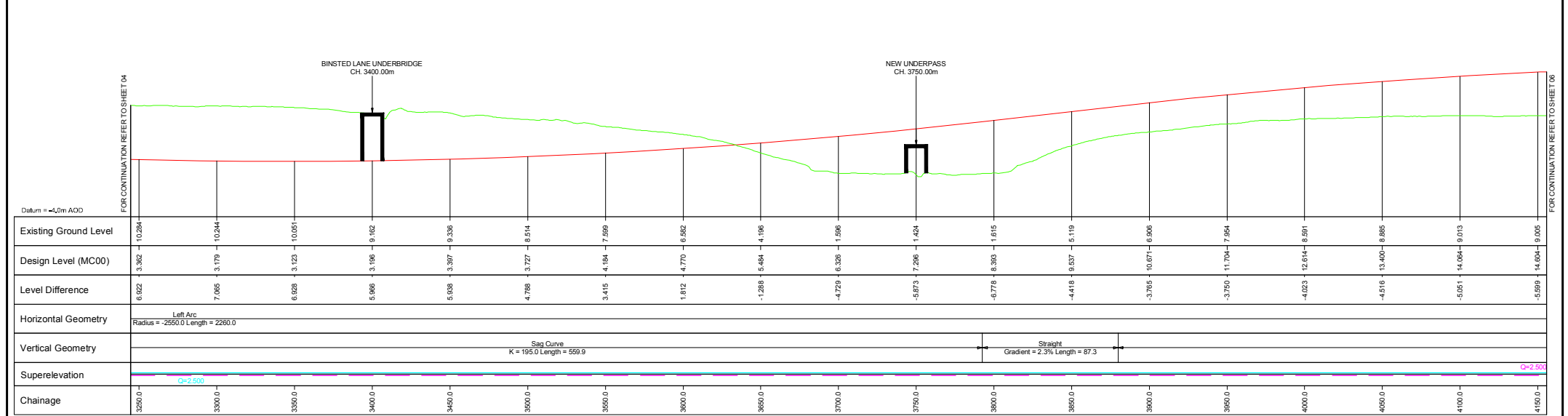
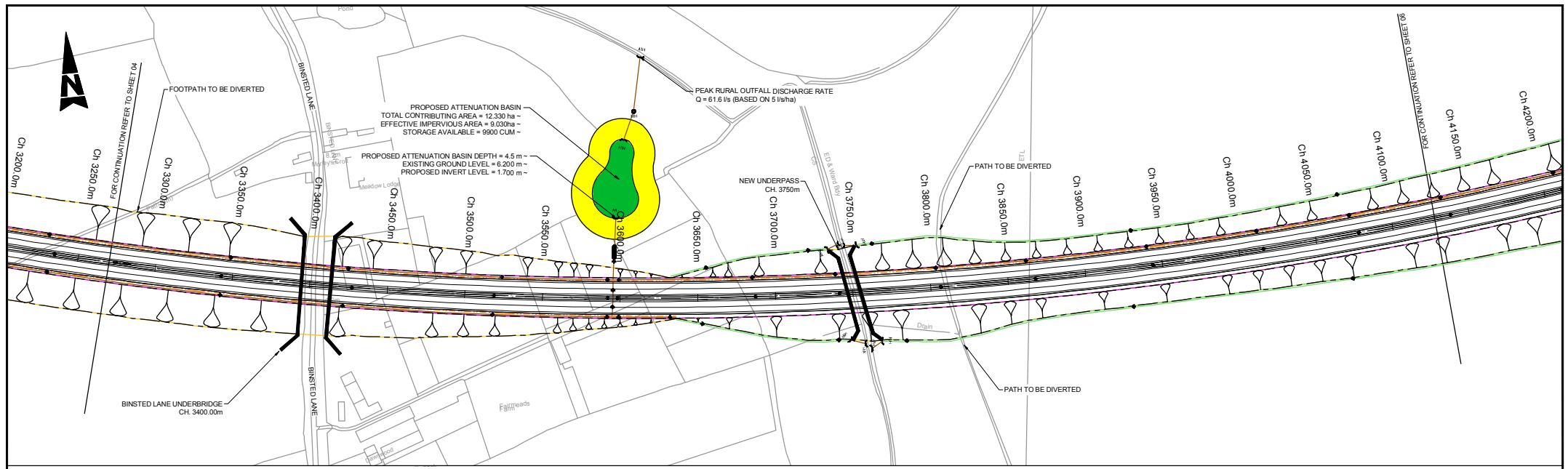
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Original Size	Date	Date	Date	Date
A1	---	---	---	---

Project Ref. No.	Originator	Revision
HE551523 - WSP - HDG - A27AR - DR - D - 0704		

Project Ref. No.	Revision
70019688	

DO NOT SCALE



NOTES:

1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0700.

KEY:

- MANHOLE
- SOAKAWAY
- GULLY
- CATCHPIT
- OUTLET
- HEADWALL
- PETROL INTERCEPTOR
- FLOW DIRECTION
- DRAINAGE CARRIER
- SEWER
- FILTER DRAIN
- FILTER DRAIN ON BRIDGE DECK
- CATEGORY 3 DEFECT
- CATEGORY 4 DEFECT
- CATEGORY 5 DEFECT
- ATTENUATION POND
- DRAINAGE DITCH

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Scale 1:1250

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Activity	Construction	Maintenance / Cleaning	Use	Decommissioning / Demolition	
PO1	First Issue				
Rev.	Date	Description	By	Chk'd	App'd

WORK IN PROGRESS

Subsidiary S0

WSP
 Westbrooke Mills
 Borough Road
 Godalming
 Surrey
 GU7 2AZ
 Tel: +44 (0)1483 528400
 Fax: +44 (0)1483 528989
 www.wsp-uk.co.uk

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**REGIONAL INVESTMENT PROGRAMME
 A27 ARUNDEL BYPASS**

**DRAINAGE PROPOSALS
 LAYOUT OPTION 5B ALTERNATIVE
 SHEET 5 OF 9**

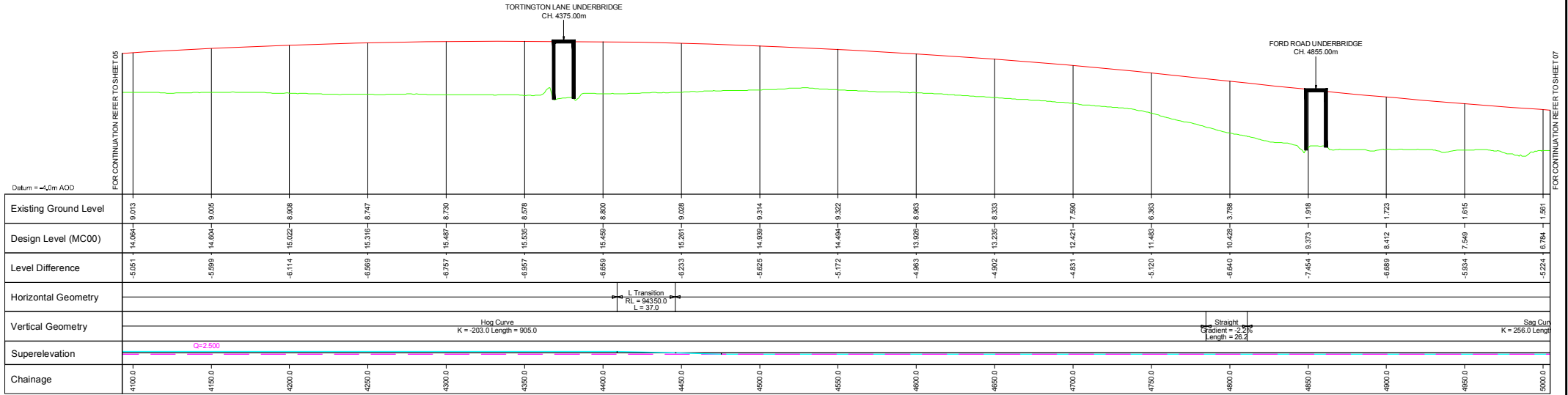
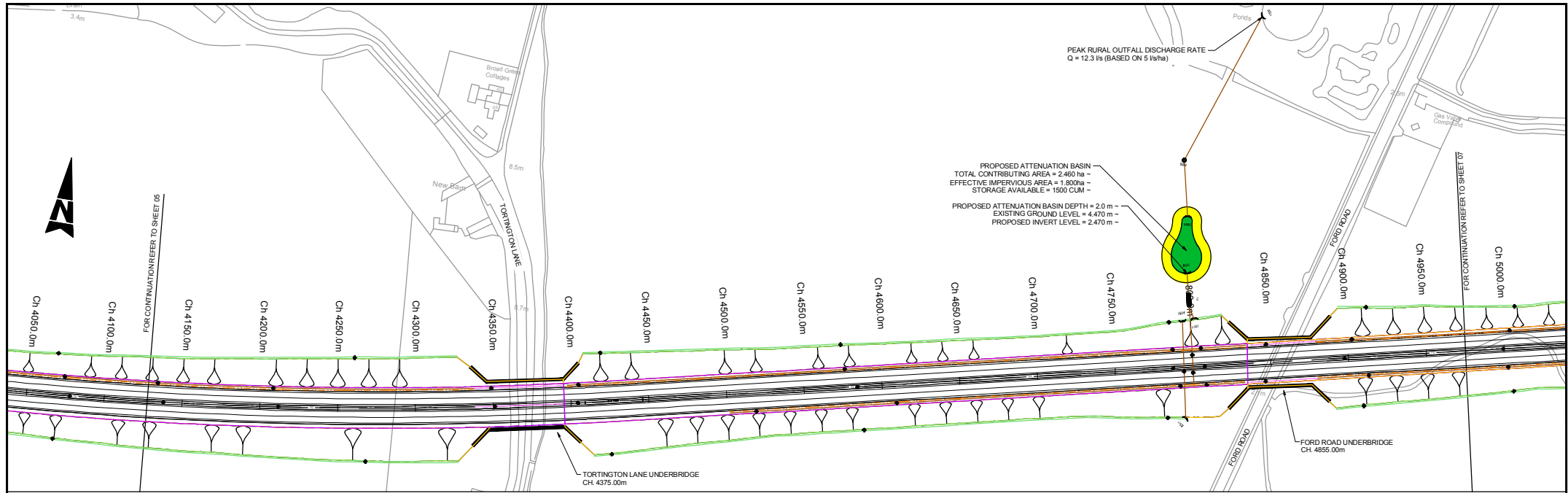
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Original Size A1

Date	Date	Date	Date	Date

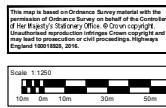
Drawing Number: HE551523 - WSP - HDG - A27AR - DR - D - 0705
 Project: Live

Originator: HE551523 - WSP - HDG - A27AR - DR - D - 0705
 Project Ref No: 70019688
 Revision: P01.1



NOTES:
1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0700.

- KEY:
- MANHOLE
 - SOAKAWAY
 - GULLY
 - CATCHPIT
 - OUTLET
 - HEADWALL
 - PETROL INTERCEPTOR
 - FLOW DIRECTION
 - DRAINAGE CARRIER
 - SEWER
 - FILTER DRAIN
 - FILTER DRAIN ON BRIDGE DECK
 - CATEGORY 3 DEFECT
 - CATEGORY 4 DEFECT
 - CATEGORY 5 DEFECT
 - ATTENUATION POND
 - DRAINAGE DITCH



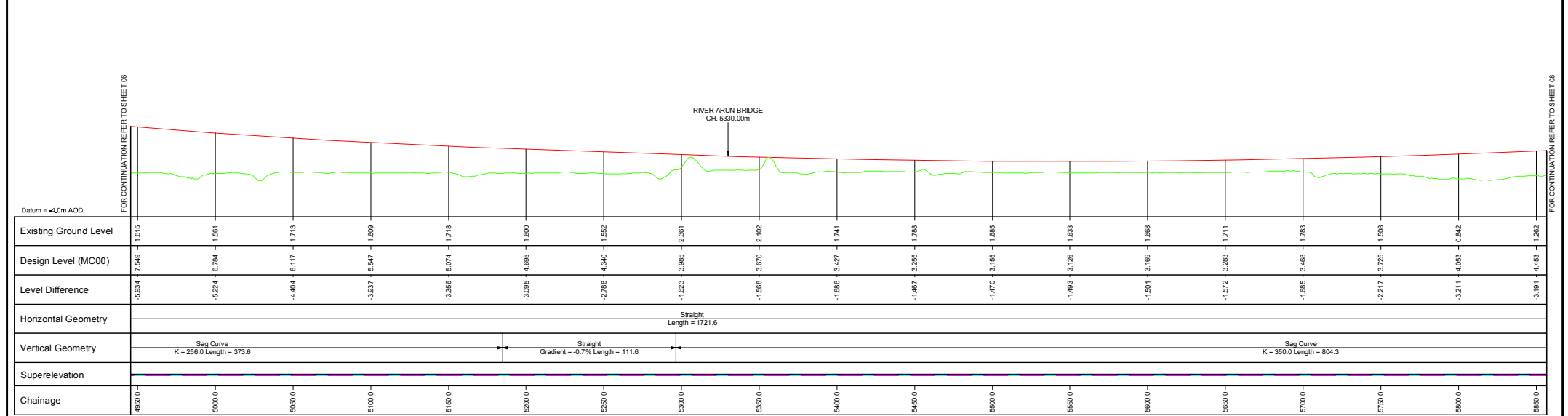
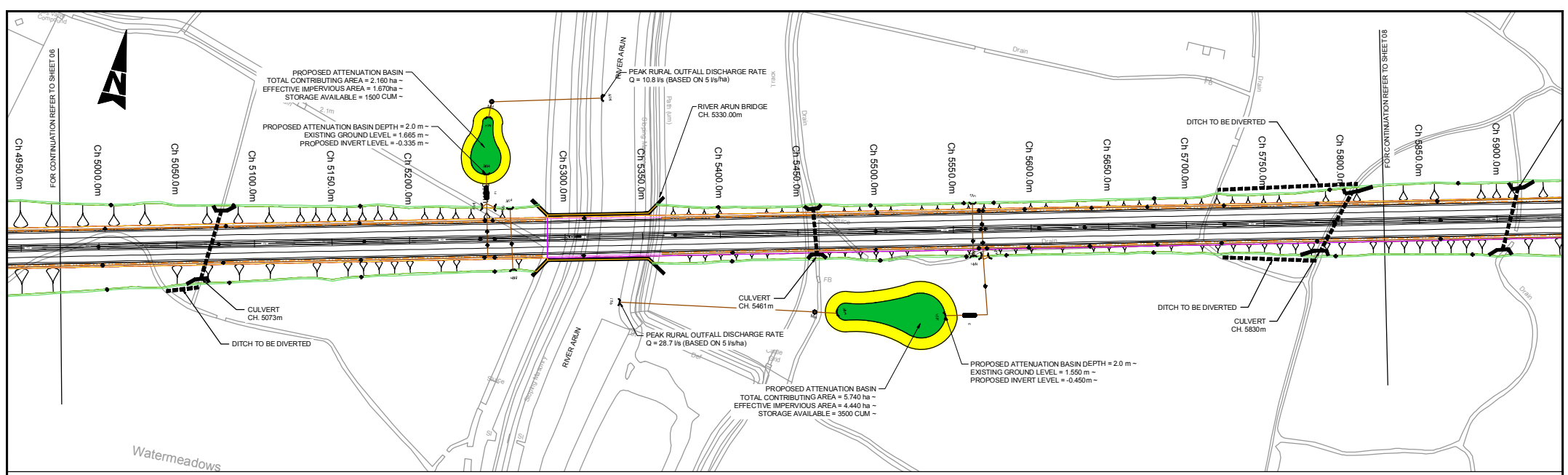
SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

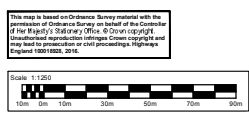
Construction	
Maintenance / Cleaning	
Use	
Decommissioning / Demolition	

Drawing Status: WORK IN PROGRESS	Stability: S0	Project Title: REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS
 Westbrook Mills Borough Road Godalming Surrey GU7 2AZ Telf: +44 (0)1483 528400 Fax: +44 (0)1483 528989 Copyright © WSP Group (2016) www.wsp-gb.co.uk	Drawing Title: DRAINAGE PROPOSALS LAYOUT OPTION 5B ALTERNATIVE SHEET 6 OF 9	Drawing No: 70019688 Project Ref: HE551523 - WSP - HDG - A27AR - DR - D - 0706 Location:
	Scale: 1:1250 Original Size: A1	Project Ref No: 70019688 P01.1

DO NOT SCALE



- NOTES:**
1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0700.
- KEY:**
- MANHOLE
 - SOAKAWAY
 - GULLY
 - CATCHPIT
 - OUTLET
 - HEADWALL
 - PETROL INTERCEPTOR
 - FLOW DIRECTION
 - DRAINAGE CARRIER
 - SEWER
 - FILTER DRAIN
 - FILTER DRAIN ON BRIDGE DECK
 - CATEGORY 3 DEFECT
 - CATEGORY 4 DEFECT
 - CATEGORY 5 DEFECT
 - ATTENUATION POND
 - DRAINAGE DITCH



SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction	Maintenance / Cleaning	Use	Decommissioning / Demolition

Rev.	Date	Description	By	Chk'd	App'd
POI.1		First Issue			

WORK IN PROGRESS

WSP
Westbrook Mills
Borough Road
Godalming
Surrey
GU7 2AZ
Tel: +44 (0)1483 528400
Fax: +44 (0)1483 528989
www.wsp-gb.co.uk

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**REGIONAL INVESTMENT PROGRAMME
A27 ARUNDEL BYPASS**

**DRAINAGE PROPOSALS
LAYOUT OPTION 5B ALTERNATIVE
SHEET 7 OF 9**

Scale	Drawn	Checked	Approved	Authorized
1:1250				

Original Size	Date	Date	Date	Date
A1				

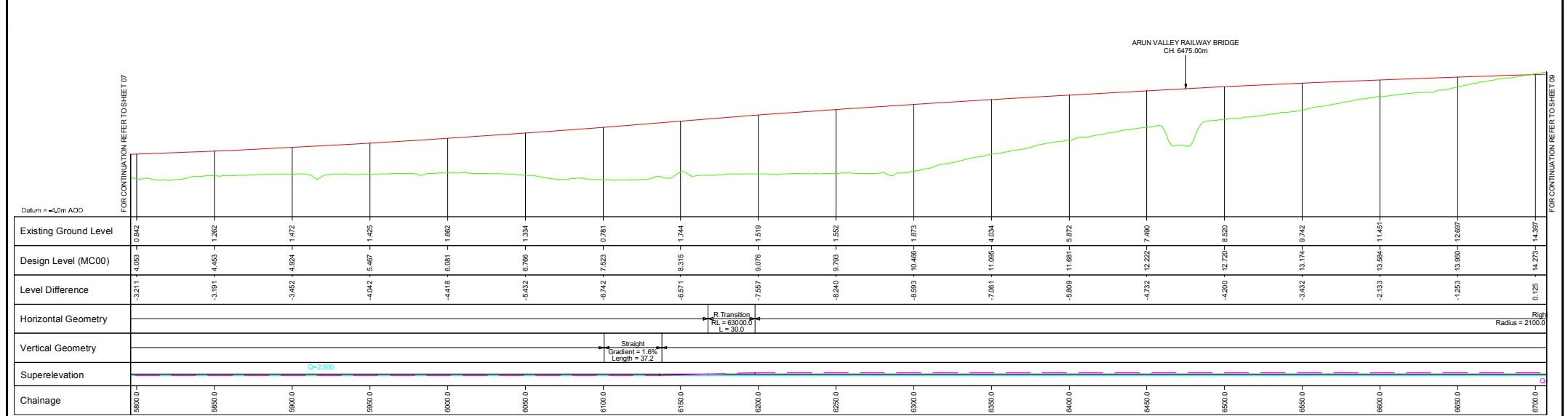
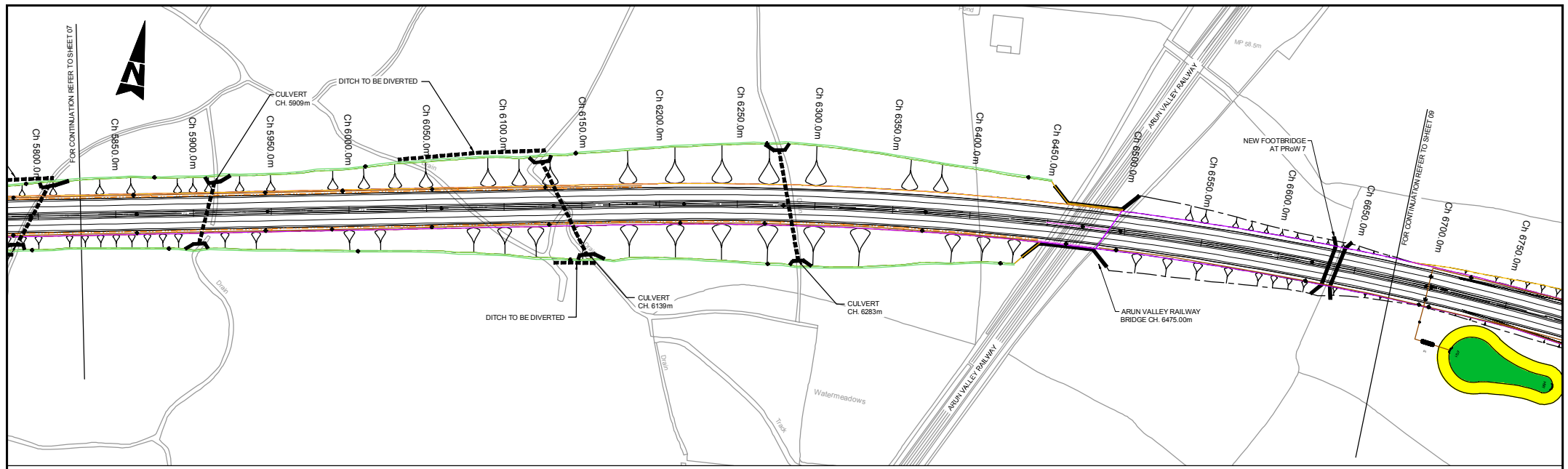
Project Ref No: **HE551523 - WSP - HDG - A27AR - DR - D - 0707**

Project Ref No: **70019688**

Location: **P01.1**

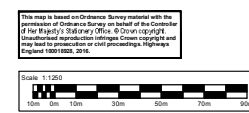
DO NOT SCALE

Millimetres
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NOTES:
1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0700.

- KEY:**
- MANHOLE
 - SOAKAWAY
 - ⊕ GULLY
 - CATCHPIT
 - OUTLET
 - ⊖ HEADWALL
 - PETROL INTERCEPTOR
 - ◆ FLOW DIRECTION
 - DRAINAGE CARRIER
 - SEWER
 - - - FILTER DRAIN
 - FILTER DRAIN
 - FILTER DRAIN ON BRIDGE DECK
 - CATEGORY 3 DEFECT
 - CATEGORY 4 DEFECT
 - CATEGORY 5 DEFECT
 - ATTENUATION POND
 - DRAINAGE DITCH



SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction	Maintenance / Cleaning	Use	Decommissioning / Demolition

POI	Rev.	Date	Description	By	Chk'd	App'd
POI 1	1		First Issue			

WORK IN PROGRESS

WSP
Westbrook Mills
Borough Road
Godalming
Surrey
GU7 2AZ
Tel: +44 (0)1483 528400
Fax: +44 (0)1483 528989
www.wsp-gb.co.uk

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REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS

DRAINAGE PROPOSALS LAYOUT OPTION 5B ALTERNATIVE SHEET 8 OF 9

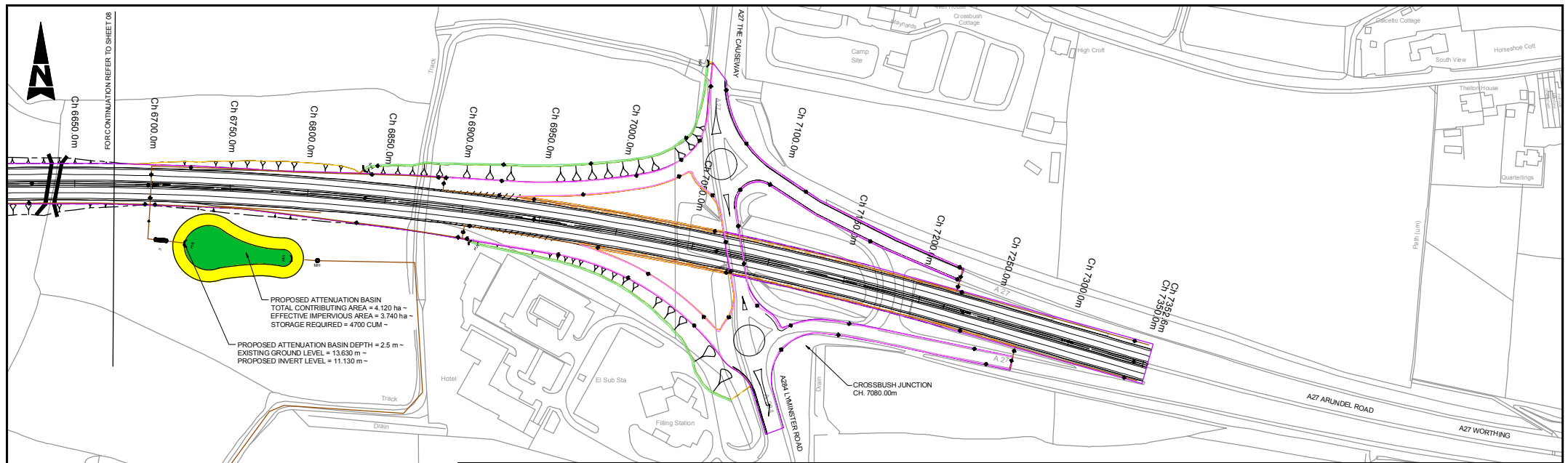
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Original Size: A1

Drawn	Checked	Approved	Authorized

Project Ref: No. HE551523 - WSP - HDG - A27AR - DR - D - 0708
Project Ref: No. 70019688
P01.1

DO NOT SCALE

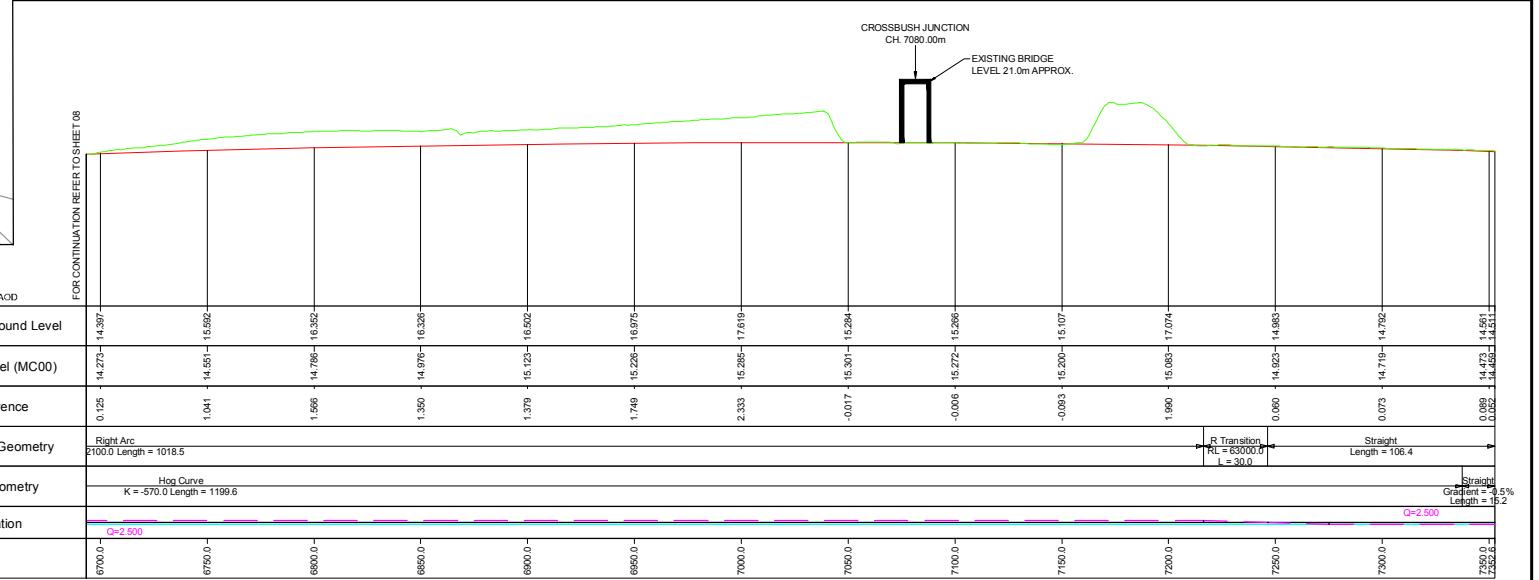
Millimetres



PROPOSED ATTENUATION BASIN
 TOTAL CONTRIBUTING AREA = 4.120 ha -
 EFFECTIVE IMPERVIOUS AREA = 3.740 ha -
 STORAGE REQUIRED = 4700 CUM -

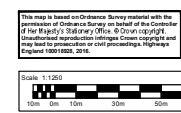
PROPOSED ATTENUATION BASIN DEPTH = 2.5 m -
 EXISTING GROUND LEVEL = 13.630 m -
 PROPOSED INVERT LEVEL = 11.130 m -

PEAK RURAL OUTFALL DISCHARGE RATE
 Q = 20.6 l/s (BASED ON 5 l/s/ha)



NOTES:
 1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0700.

- KEY:
- MANHOLE
 - SOAKAWAY
 - GULLY
 - CATCHPIT
 - OUTLET
 - HEADWALL
 - PETROL INTERCEPTOR
 - FLOW DIRECTION
 - DRAINAGE CARRIER
 - SEWER
 - FILTER DRAIN
 - FILTER DRAIN ON BRIDGE DECK
 - CATEGORY 3 DEFECT
 - CATEGORY 4 DEFECT
 - CATEGORY 5 DEFECT
 - ATTENUATION POND
 - DRAINAGE DITCH



SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction	Maintenance / Cleaning	Use	Decommissioning / Demolition

WORK IN PROGRESS

REGIONAL INVESTMENT PROGRAMME
 A27 ARUNDEL BYPASS

Drawing Title: DRAINAGE PROPOSALS LAYOUT OPTION 5B ALTERNATIVE SHEET 9 OF 9

Scale	Drawn	Checked	Approved	Authorised
1:1250	---	---	---	---

Original Size: A1

Drawn	Date	Checked	Date	Approved	Date	Authorised	Date

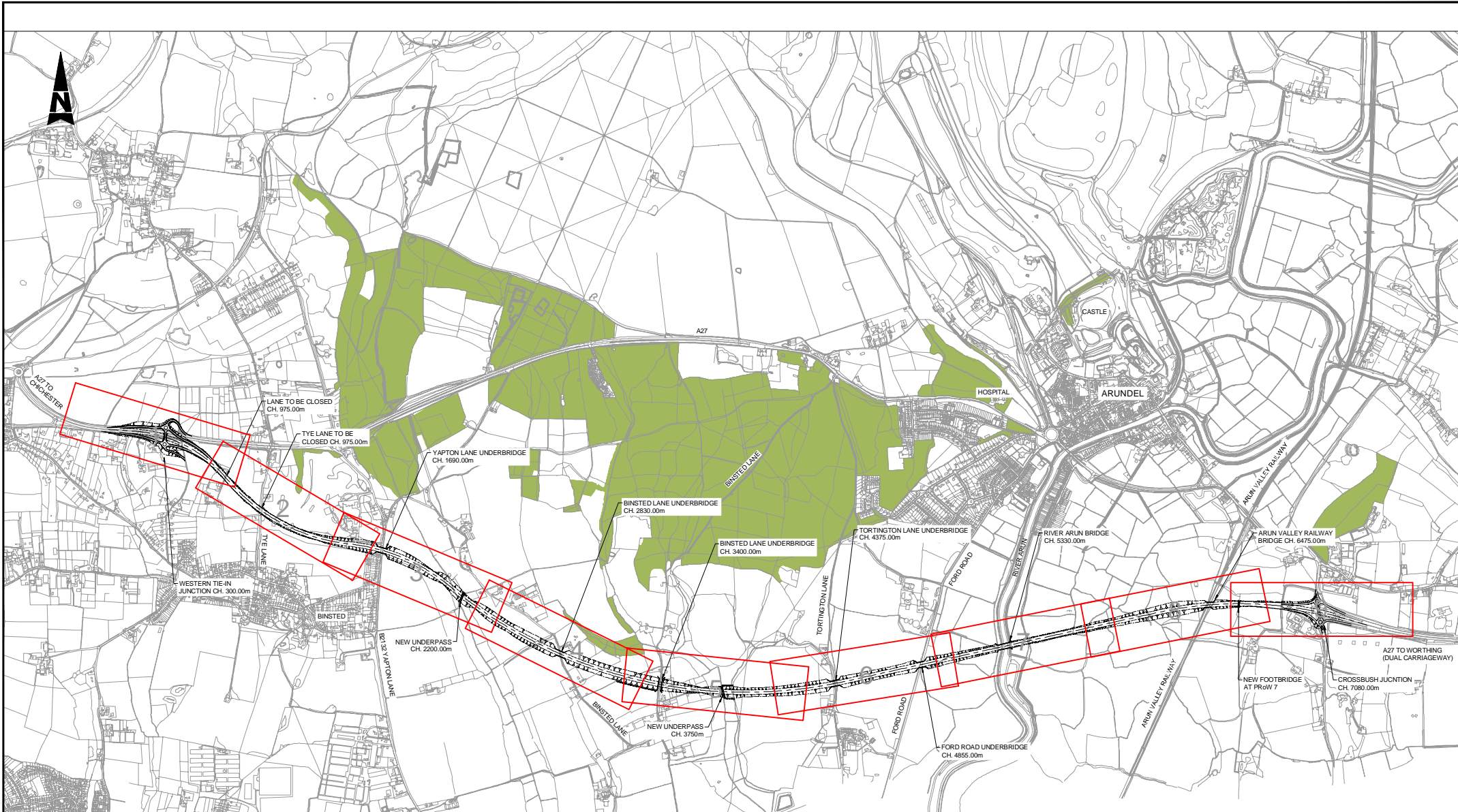
Project Ref: No. HE551523 - WSP - HDG - A27AR - DR - D - 0709

Project Ref: No. 70019688

Revision: P01.1

DO NOT SCALE

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Millimetres



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NOTES:
1. FOR LAYOUTS REFER TO DRG. NOS. HE55123-WSP-HGN-A27AR-DR-D-0701 TO 0709.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction					
Maintenance / Cleaning					
Use					
Decommissioning / Demolition					

Rev	Date	Description	By	CHK'd	App'd
P01.1	---	First Issue	TC	TC	TC

Drawing Status: **WORK IN PROGRESS** Stability: **S0**

WSP
Westbrook Mills
Borough Road
Godalming
Surrey
GU7 2AZ
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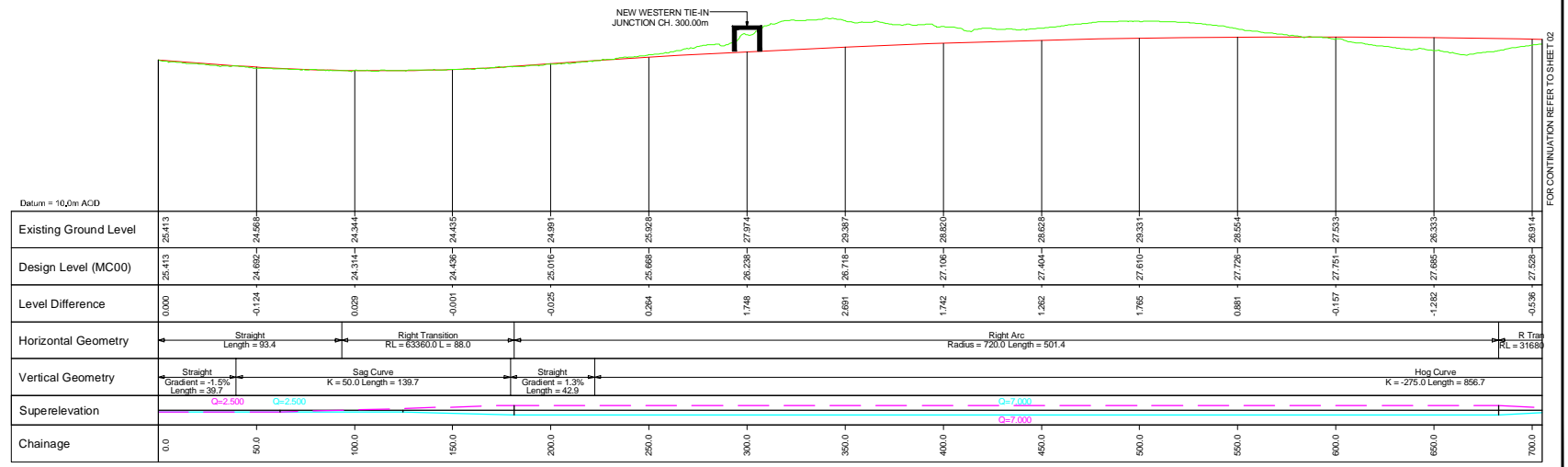
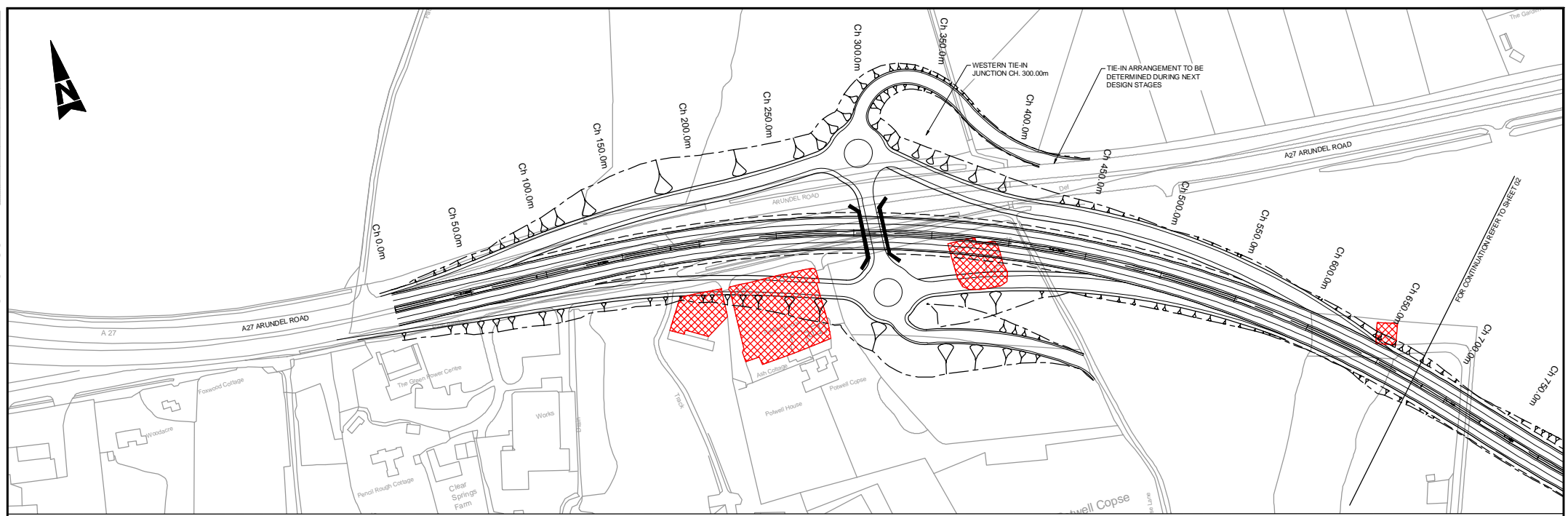
Project Title: **REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS**

Drawing Title: **INDICATIVE ALIGNMENT PROPOSALS LAYOUT OPTION 5B ALTERNATIVE OVERVIEW PLAN**

Scale: 1:10000	Drawn: TC	Checked: TC	Approved: TC	Authorised: TC
Original Date: A1	Date: ---	Date: ---	Date: ---	Date: ---
Drawing Number: HE55123 - WSP - HGN - A27AR - DR - D - 0700	Originator: Type	Volume: Size	Number: Number	Project Ref. No: 70019688
Revision: P01.1				

DO NOT SCALE

Millimetres
0 10 100



NOTES:
1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0700.

- KEY:**
- DESIGN LEVEL
 - EXISTING LEVEL
 - RIGHT CHANNEL LINE
 - LEFT CHANNEL LINE
 - ▨ PROPERTIES AFFECTED BY NEW ROUTE

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction	Maintenance / Cleaning	Use	Decommissioning / Demolition

Rev	Date	Description	By	Chk'd	App'd
P01.1		First Issue			

Drawing Status: **WORK IN PROGRESS** Stability: **S0**

WSP
Westbrook Mills
Borough Road
Godalming
Surrey
GU7 2AZ
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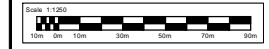
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Project Title: **REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS**

Drawing Title: **INDICATIVE ALIGNMENT PROPOSALS LAYOUT OPTION 5B ALTERNATIVE SHEET 1 OF 9**

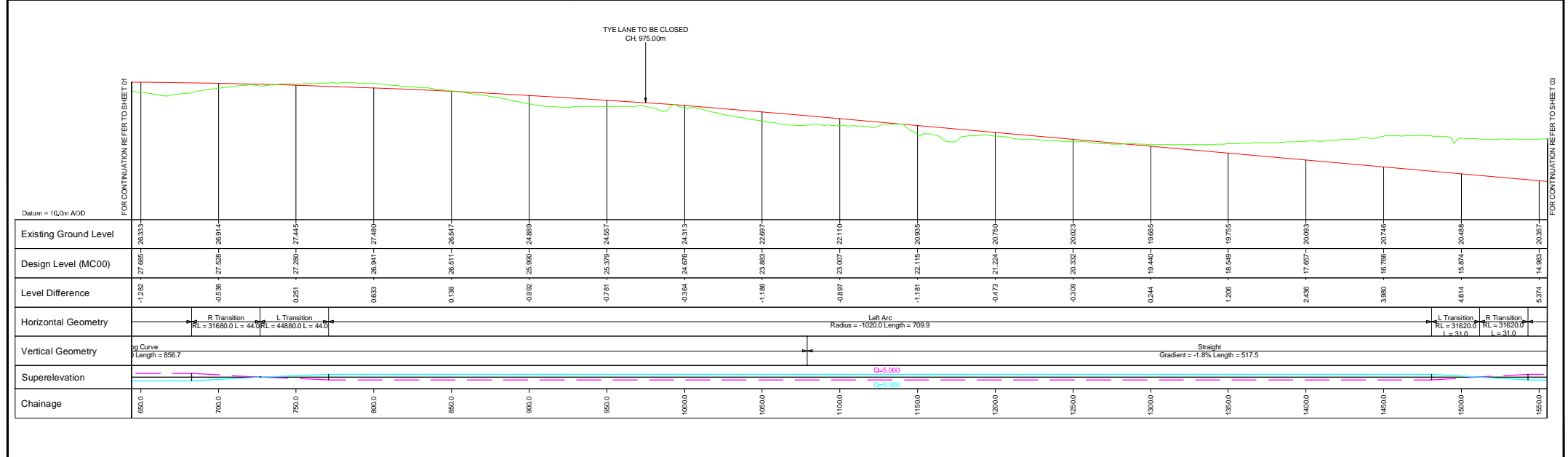
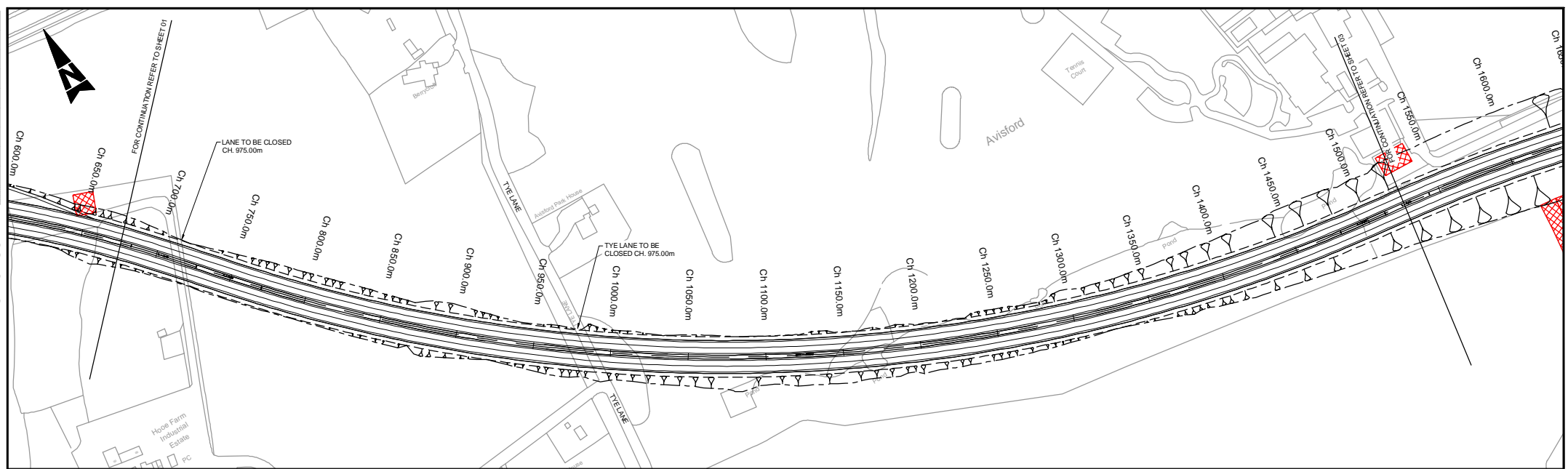
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Original Size: A1	Date: ---	Date: ---	Date: ---	Date: ---
Drawing Number: HE551523 - WSP - HGN - A27AR - DR - D - 0701	Originator: I	Volume: I	Project Ref No: 70019688	Revision: P01.1

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DO NOT SCALE

Millimetres
0 10 100



NOTES:
1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0700.

KEY:
— DESIGN LEVEL
— EXISTING LEVEL
— RIGHT CHANNEL LINE
— LEFT CHANNEL LINE
 PROPERTIES AFFECTED BY NEW ROUTE

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Scale 1:1250

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION				
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).				
Construction				
Maintenance / Cleaning				
Use				
Decommissioning / Demolition				
PO1	---	First Issue	---	---
Rev	Date	Description	By	Chg Appr

Drawing Status: **WORK IN PROGRESS** Status: **S0**

WSP
 Westbrook Mills
 Borough Road
 Godalming
 Surrey
 GU7 2AZ
 Tel: +44 (0)1483 528400
 Fax: +44 (0)1483 528989
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Project Title: **REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS**

Drawing Title: **INDICATIVE ALIGNMENT PROPOSALS LAYOUT OPTION 5B ALTERNATIVE SHEET 2 OF 9**

Scale: 1:1250 Drawn: --- Checked: --- Approved: --- Authorised: ---

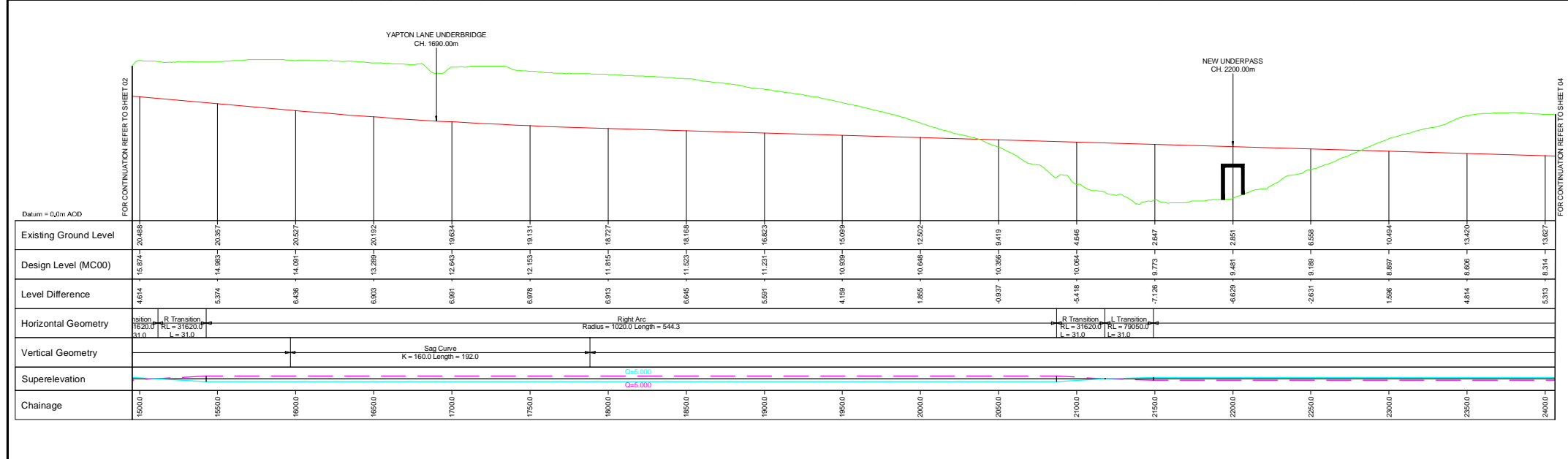
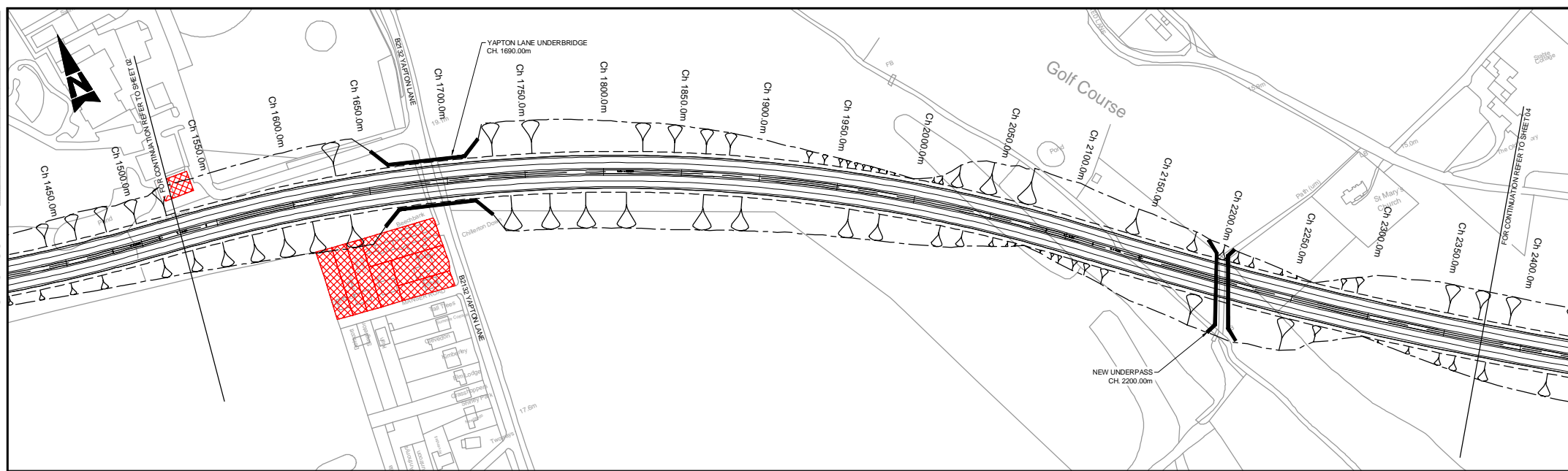
Original Scale: A1 Date: --- Date: --- Date: --- Date: ---

Drawing Number: HE551523 - WSP - HGN - A27AR - DR - D - 0702
 Project: HE551523 - WSP - HGN - A27AR - DR - D - 0702

Project Ref No: 70019688
 Revision: P01.1

DO NOT SCALE

Millimetres
100
0 10



NOTES:
1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0700.

KEY:
— DESIGN LEVEL
— EXISTING LEVEL
— RIGHT CHANNEL LINE
— LEFT CHANNEL LINE
▨ PROPERTIES AFFECTED BY NEW ROUTE

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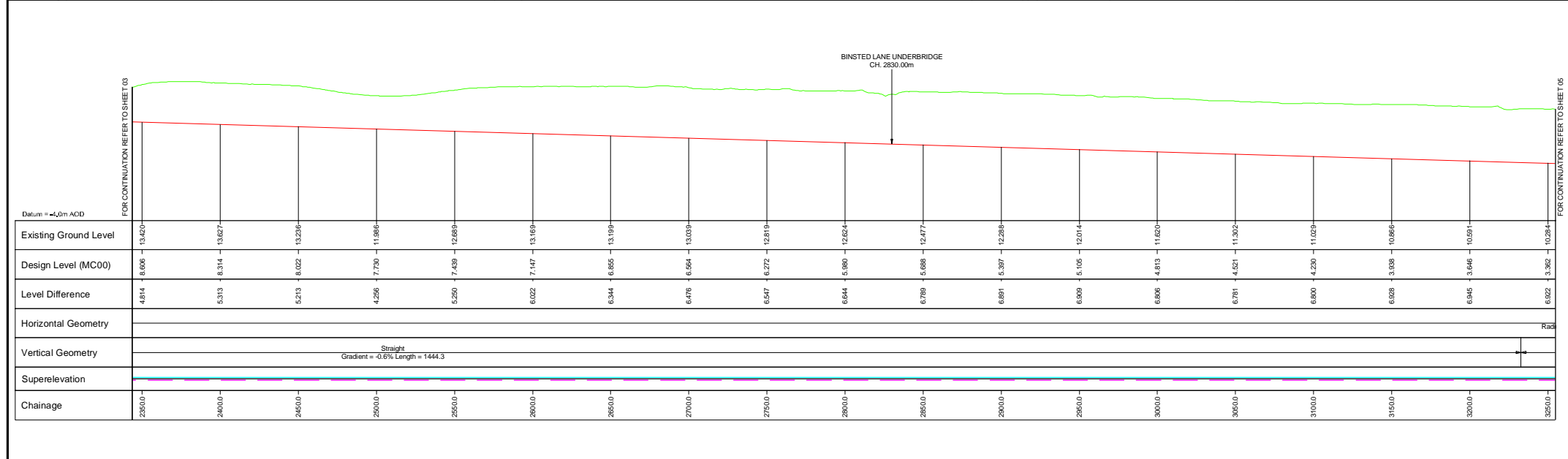
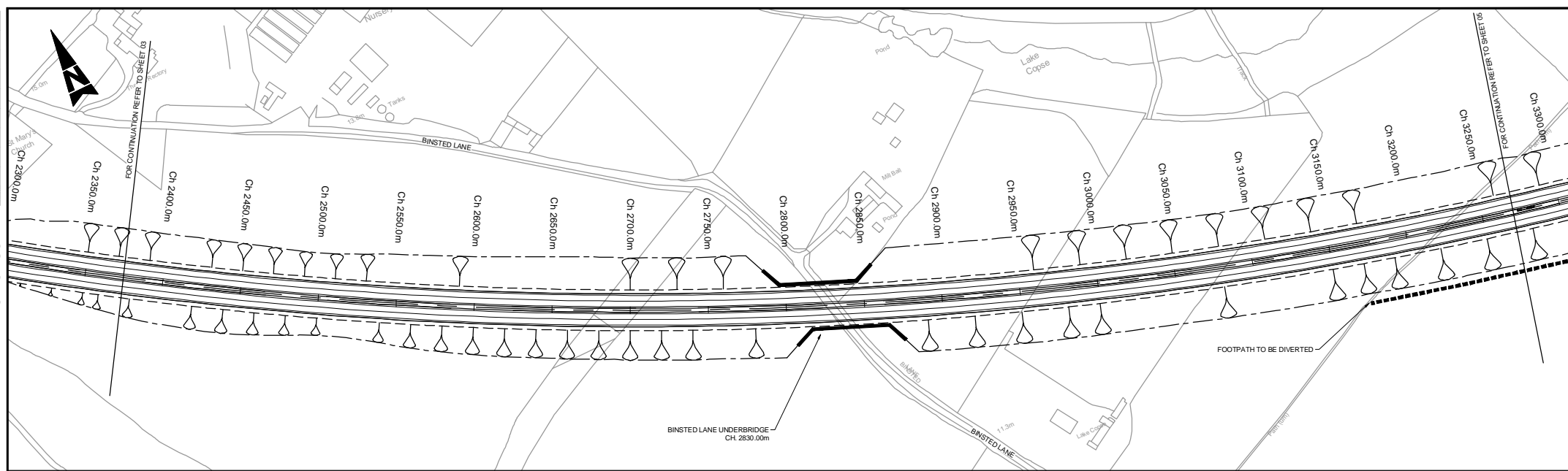
Scale 1:1250
10m 0m 10m 30m 50m 70m 90m

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION			
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).			
Construction			
Maintenance / Cleaning			
Use			
Decommissioning / Demolition			
PO1	---	First Issue	---
Rev	Date	Description	By Ctd App

Drawing Status	WORK IN PROGRESS	Subsidiary	S0	Project Title	REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS
		Westbrook Mills Borough Road Godalming Surrey GU7 2AZ Tel: +44 (0)1483 528400 Fax: +44 (0)1483 528989 www.wsp-pb.co.uk		Drawing Title	INDICATIVE ALIGNMENT PROPOSALS LAYOUT OPTION 5B ALTERNATIVE SHEET 3 OF 9
		Scale	1:1250	Drawn	---
		Original Size	A1	Checked	---
		Project Number	HE55123 - WSP - HGN - A27AR - DR - D - 0703	Approved	---
		Project Ref No	70019688	Date	---
		Revision	P01.1	Date	---
		Location		Date	---

DO NOT SCALE

Millimetres
0 10 100



NOTES:
1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0700.

KEY:
— DESIGN LEVEL
— EXISTING LEVEL
— RIGHT CHANNEL LINE
— LEFT CHANNEL LINE
 PROPERTIES AFFECTED BY NEW ROUTE

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SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION				
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).				
Construction				
Maintenance / Cleaning				
Use				
Decommissioning / Demolition				
PO1	---	First Issue	---	---
Rev	Date	Description	By	Chg Appr

WORK IN PROGRESS

WSP
Westbrook Mills
Borough Road
Godalming
Surrey
GU7 2AZ
Tel: +44 (0)1483 528400
Fax: +44 (0)1483 528989
www.wsp-uk.co.uk

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**REGIONAL INVESTMENT PROGRAMME
A27 ARUNDEL BYPASS**

**INDICATIVE ALIGNMENT PROPOSALS
LAYOUT OPTION 5B ALTERNATIVE
SHEET 4 OF 9**

Scale: 1:1250
Drawing No: A1
Project: HE55123 - WSP - HGN - A27AR - DR - D - 0704

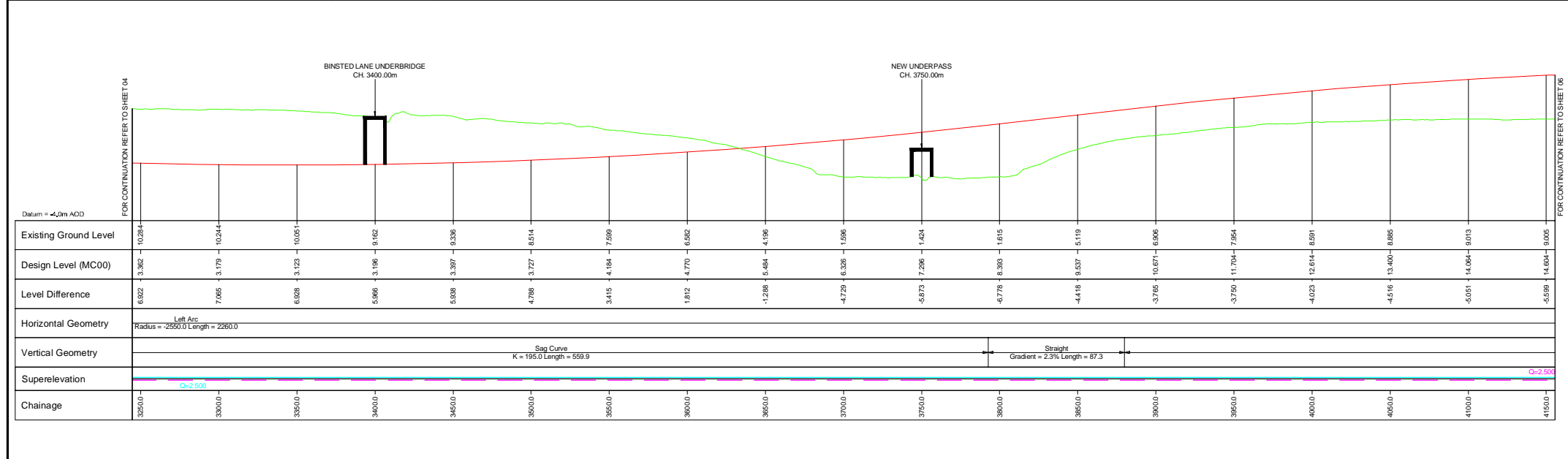
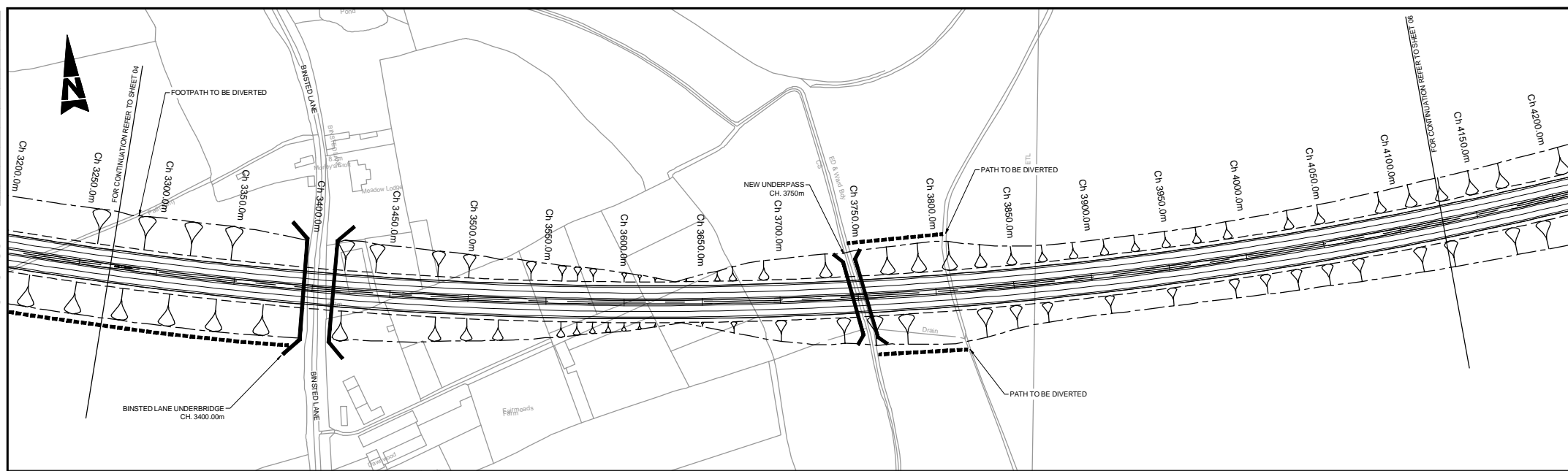
Originator: []
Volume: []
Revision: []
Date: []

Authorised: []
Date: []

Project Ref No: 70019688
Revision: P01.1

DO NOT SCALE

Millimetres
0 10 100



NOTES:
 1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0700.

KEY:
 - DESIGN LEVEL (Red line)
 - EXISTING LEVEL (Green line)
 - RIGHT CHANNEL LINE (Blue line)
 - LEFT CHANNEL LINE (Cyan line)
 - PROPERTIES AFFECTED BY NEW ROUTE (Red hatched area)

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION
 In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).
 Construction
 Maintenance / Cleaning
 Use
 Decommissioning / Demolition

Scale: 1:1250
 10m 0m 10m 30m 50m 70m 90m

Rev	Date	Description	By	Chk'd	App'd
P01.1		First Issue			

WORK IN PROGRESS

WSP
 Westbrook Mills
 Borough Road
 Godalming
 Surrey
 GU7 2AZ
 Tel: +44 (0)1483 528400
 Fax: +44 (0)1483 528989
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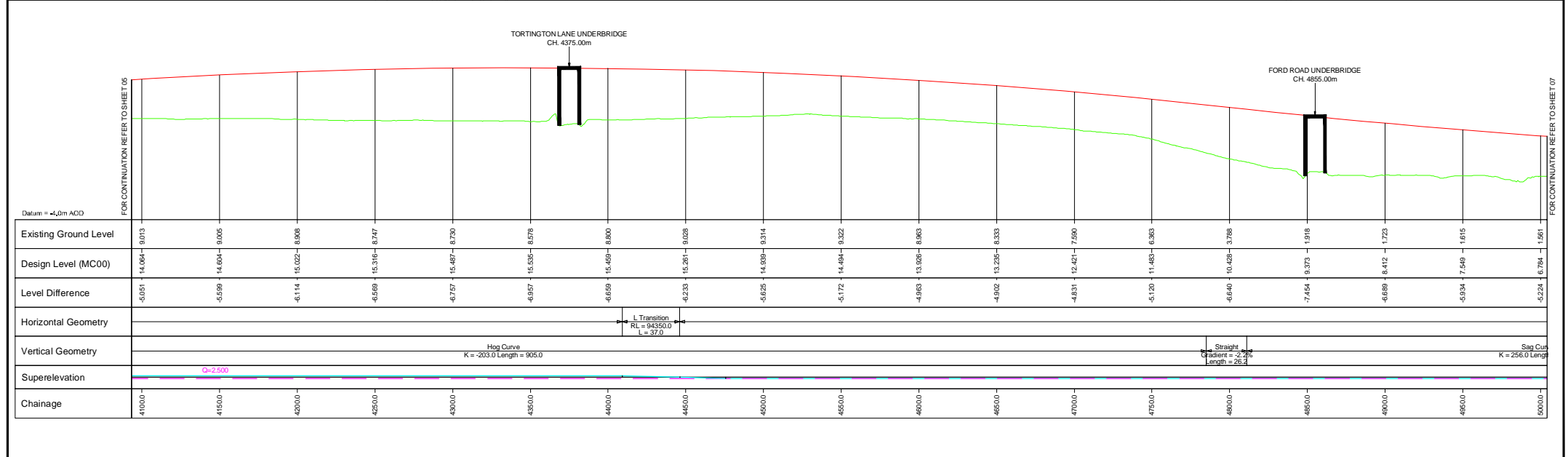
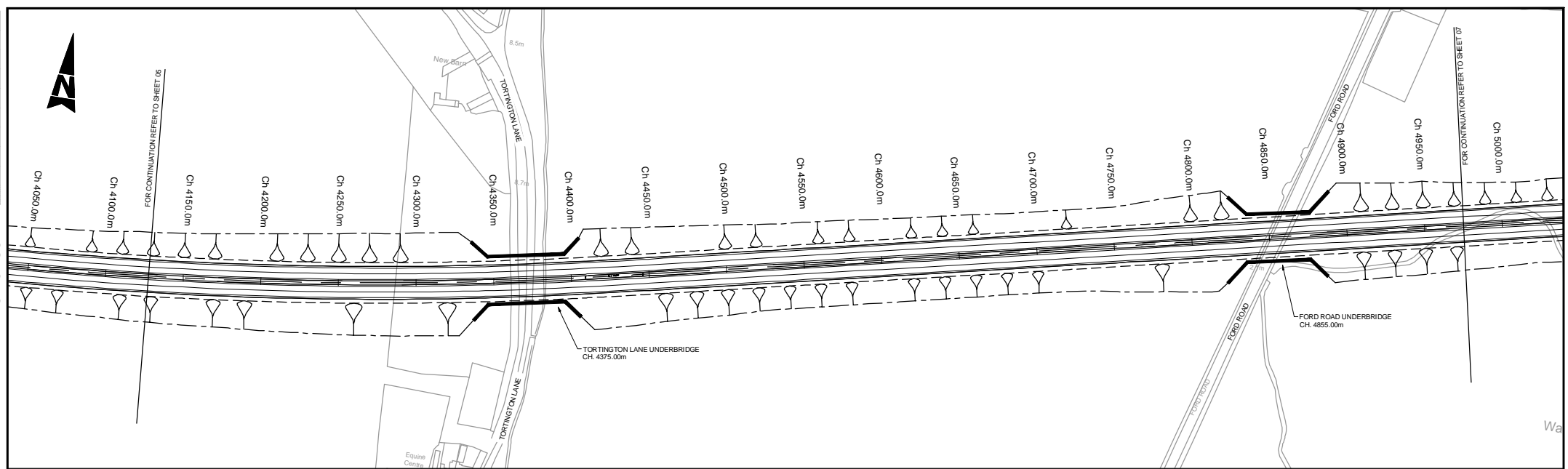
**REGIONAL INVESTMENT PROGRAMME
 A27 ARUNDEL BYPASS**

**INDICATIVE ALIGNMENT PROPOSALS
 LAYOUT OPTION 5B ALTERNATIVE
 SHEET 5 OF 9**

Scale: 1:1250
 Drawing No: A1
 Project: HE55123 - WSP - HGN - A27AR - DR - D - 0705
 Originator: I
 Volume: I
 Project Ref No: 70019688
 Revision: P01.1

DO NOT SCALE

Millimetres
100
0 10

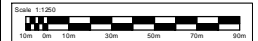


Chainage	4100.0	4150.0	4200.0	4250.0	4300.0	4350.0	4400.0	4450.0	4500.0	4550.0	4600.0	4650.0	4700.0	4750.0	4800.0	4850.0	4900.0	4950.0	5000.0
Existing Ground Level	9.013	9.005	8.998	8.947	8.790	8.578	8.800	9.028	9.322	8.963	8.333	7.590	6.363	3.798	1.918	1.723	1.615	1.561	
Design Level (MC00)	14.064	14.604	15.022	15.316	15.467	15.535	15.459	15.281	14.484	13.326	12.421	11.483	10.428	9.373	8.412	7.549	6.794	6.161	
Level Difference	-5.051	-5.599	-6.114	-6.669	-6.757	-6.957	-6.659	-6.233	-5.625	-5.172	-4.963	-4.902	-4.831	-5.120	-6.840	-7.454	-6.699	-5.934	-5.224
Horizontal Geometry	L Transition RL = 94350.0 L = 37.0																		
Vertical Geometry	Hog Curve K = 203.0 Length = 905.0																		
Superelevation	G = 2.500																		
Chainage																			

NOTES:
1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0700.

- KEY:**
- DESIGN LEVEL
 - EXISTING LEVEL
 - RIGHT CHANNEL LINE
 - LEFT CHANNEL LINE
 - PROPERTIES AFFECTED BY NEW ROUTE

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SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).	
Construction	
Maintenance / Cleaning	
Use	
Decommissioning / Demolition	

Rev	Date	Description	By	Chk'd	App'd
P01.1		First Issue			

WORK IN PROGRESS

WSP
Westbrook Mills
Borough Road
Godalming
Surrey
GU7 2AZ
Tel: +44 (0)1483 528400
Fax: +44 (0)1483 528989
www.wsp-pb.co.uk

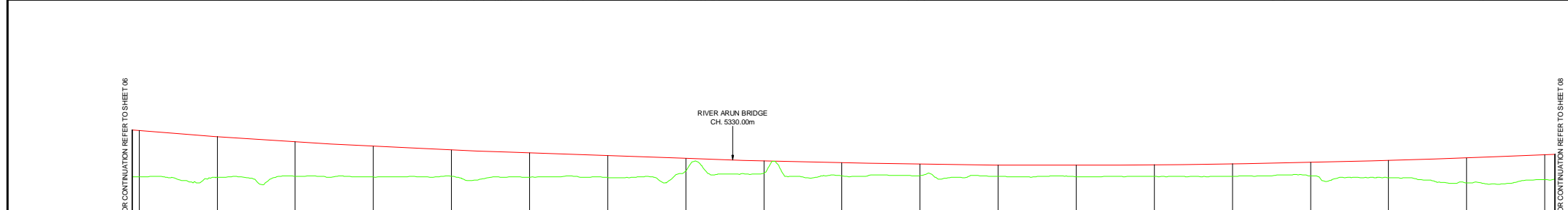
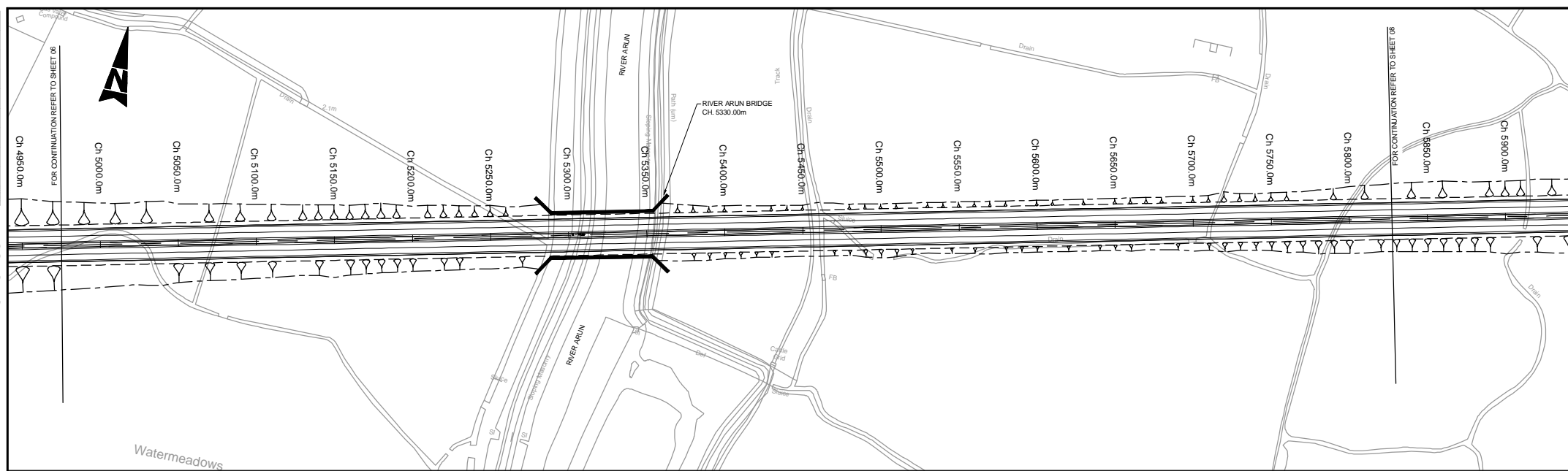
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REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS	
Drawing Title: INDICATIVE ALIGNMENT PROPOSALS LAYOUT OPTION 5B ALTERNATIVE SHEET 6 OF 9	
Scale: 1:1250	Drawn: --- Checked: --- Approved: --- Authorised: ---
Original Size: A1	Date: --- Date: --- Date: --- Date: ---
Drawing Number: HE551523 - WSP - HGN - A27AR - DR - D - 0706	Project Ref No: 70019688
Location: ---	Revision: P01.1

DO NOT SCALE

Millimetres
0 10 100



Datum = +4.0m AOD	
Existing Ground Level	1.615, 1.561, 1.713, 1.699, 1.718, 1.600, 1.592, 2.261, 2.102, 1.741, 1.798, 1.685, 1.633, 1.666, 1.711, 1.763, 1.698, 1.642, 1.262
Design Level (MC00)	-5.934, -6.794, -6.117, -5.547, -5.074, -4.696, -4.340, -3.985, -3.670, -3.427, -3.255, -3.155, -3.126, -3.169, -3.263, -3.468, -3.725, -4.053, -4.453
Level Difference	
Horizontal Geometry	Straight Length = 1721.6
Vertical Geometry	Sag Curve K = 256.0 Length = 373.6; Straight Gradient = 0.7% Length = 111.6; Sag Curve K = 350.0 Length = 804.3
Superelevation	
Chainage	4950.0, 5000.0, 5050.0, 5100.0, 5150.0, 5200.0, 5250.0, 5300.0, 5350.0, 5400.0, 5450.0, 5500.0, 5550.0, 5600.0, 5650.0, 5700.0, 5750.0, 5800.0, 5850.0

NOTES:
1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0700.

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KEY:
— DESIGN LEVEL
— EXISTING LEVEL
— RIGHT CHANNEL LINE
— LEFT CHANNEL LINE
 PROPERTIES AFFECTED BY NEW ROUTE

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).	
Construction	
Maintenance / Cleaning	
Use	
Decommissioning / Demolition	

Rev	Date	Description	By	Chk'd	App'd
P01.1		First Issue			

Drawing Status: **WORK IN PROGRESS** Status: **S0**

WSP
Westbrook Mills
Borough Road
Godalming
Surrey
GU7 2AZ
Tel: +44 (0)1483 528400
Fax: +44 (0)1483 528989
www.wsp-pb.co.uk

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Project Title: **REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS**

Drawing Title: **INDICATIVE ALIGNMENT PROPOSALS LAYOUT OPTION 5B ALTERNATIVE SHEET 7 OF 9**

Scale: 1:1250 Drawn: Checked: Approved: Authorised:

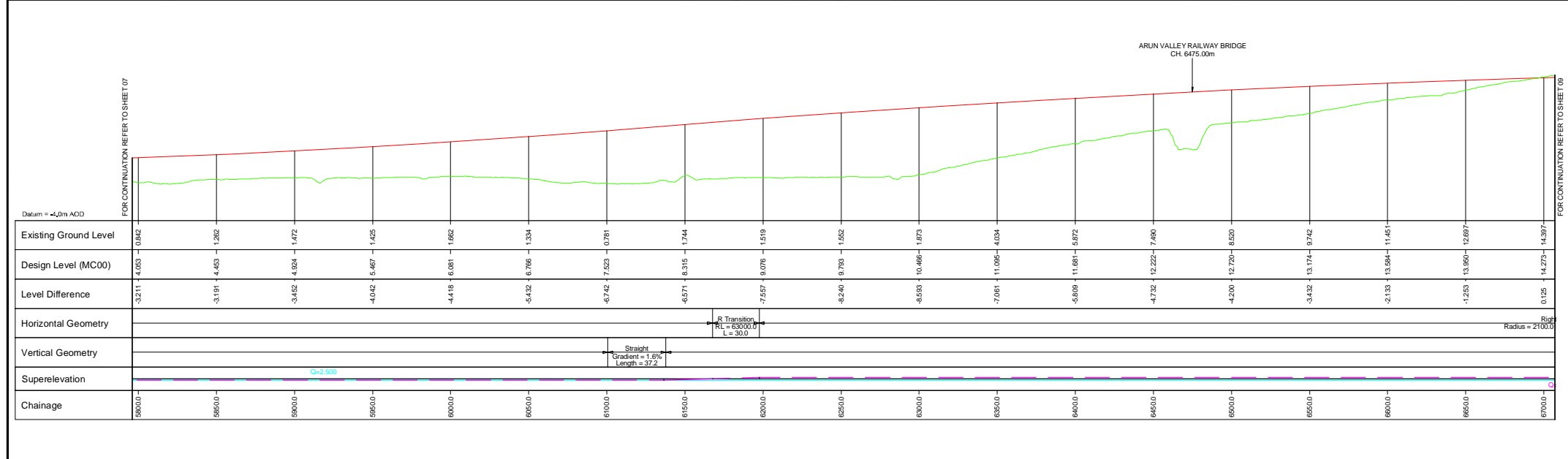
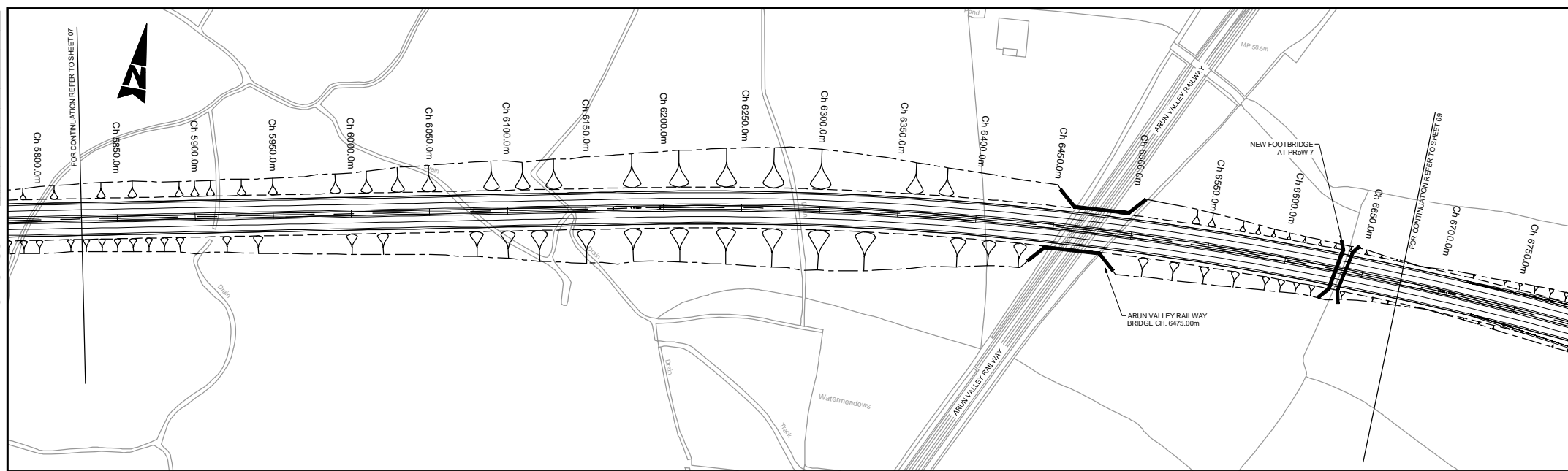
Original Scale: A1 Date: Date: Date: Date:

Drawing Number: HE551523 - WSP - HGN - A27AR - DR - D - 0707 Project Ref. No: 70019688

Location: Type: Date: Number: Revision: P01.1

DO NOT SCALE

Millimetres
100
0 10



NOTES:

1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0700.

KEY:

- DESIGN LEVEL
- EXISTING LEVEL
- RIGHT CHANNEL LINE
- LEFT CHANNEL LINE
- PROPERTIES AFFECTED BY NEW ROUTE

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction	Maintenance / Cleaning	Use	Decommissioning / Demolition

Rev	Date	Description	By	Chk'd	App'd
P01.1		First Issue			

Drawing Status

WORK IN PROGRESS

WSP
Westbrook Mills
Borough Road
Godalming
Surrey
GU7 2AZ
Tel: +44 (0)1483 528400
Fax: +44 (0)1483 528989
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REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS

INDICATIVE ALIGNMENT PROPOSALS LAYOUT OPTION 5B ALTERNATIVE SHEET 8 OF 9

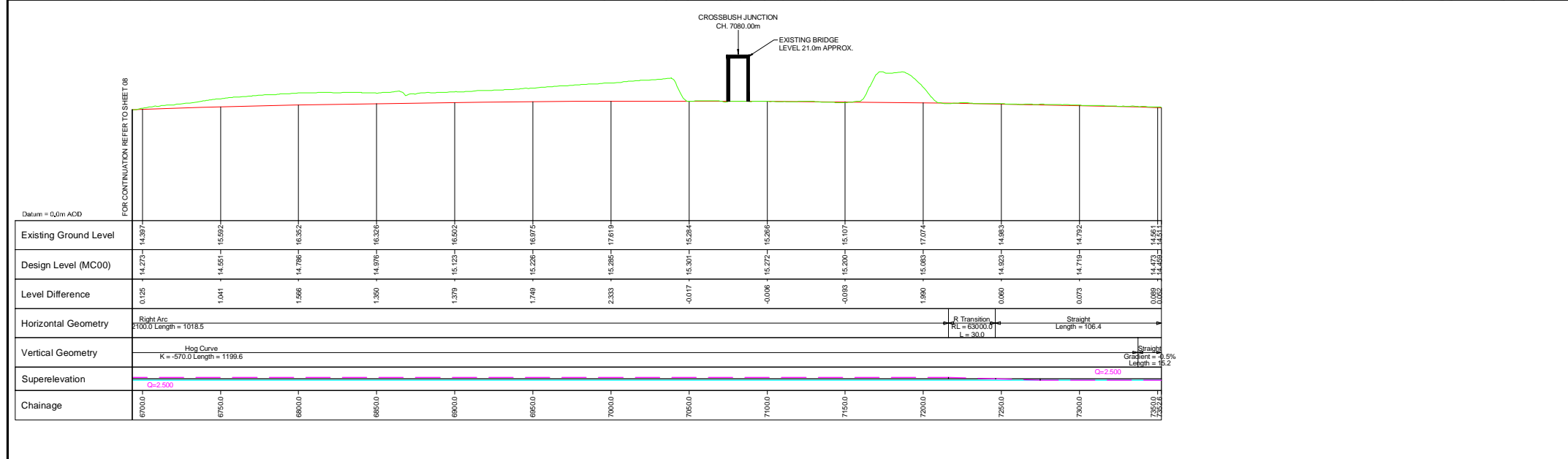
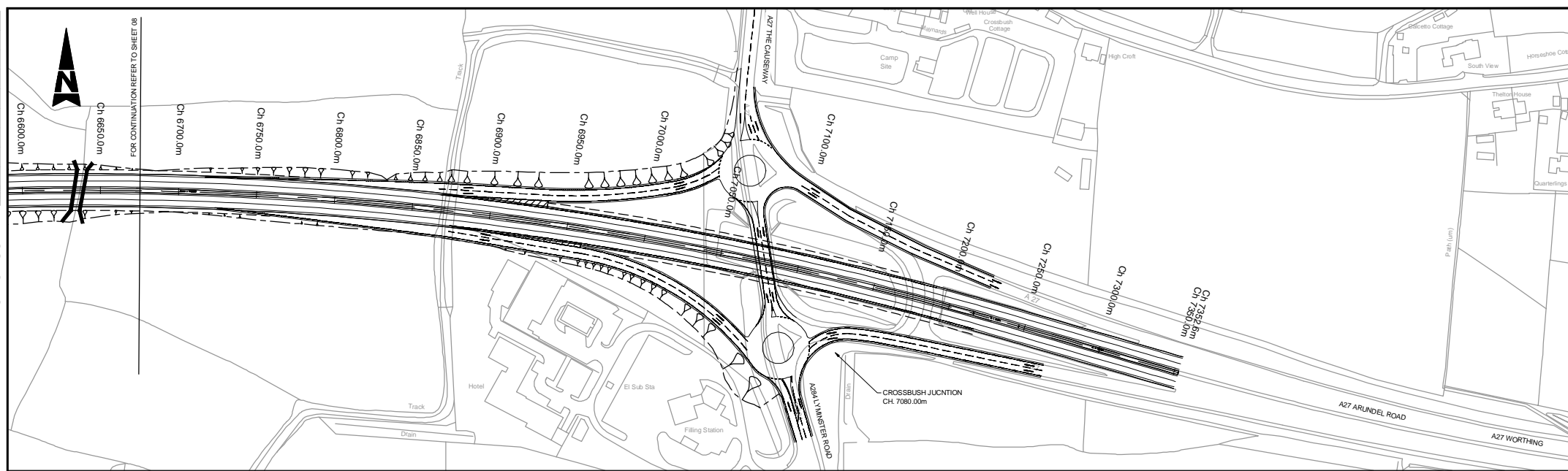
Scale	Drawn	Checked	Approved	Authorised
1:1250				

Original Scale	Date	Date	Date	Date
A1				

Drawing Number	Project	Originator	Volume	Project Ref. No.
HE551523 - WSP - HGN - A27AR - DR - D - 0708				70019688

DO NOT SCALE

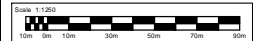
Millimetres
0 10 100



NOTES:
1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0700.

- KEY:**
- DESIGN LEVEL
 - EXISTING LEVEL
 - RIGHT CHANNEL LINE
 - LEFT CHANNEL LINE
 - PROPERTIES AFFECTED BY NEW ROUTE

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SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction	Maintenance / Cleaning	Use	Decommissioning / Demolition

Rev	Date	First Issue	Description	By	Chg	App'd
P01.1						

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WSP
Westbrook Mills
Borough Road
Godalming
Surrey
GU7 2AZ
Tel: +44 (0)1483 528400
Fax: +44 (0)1483 528989
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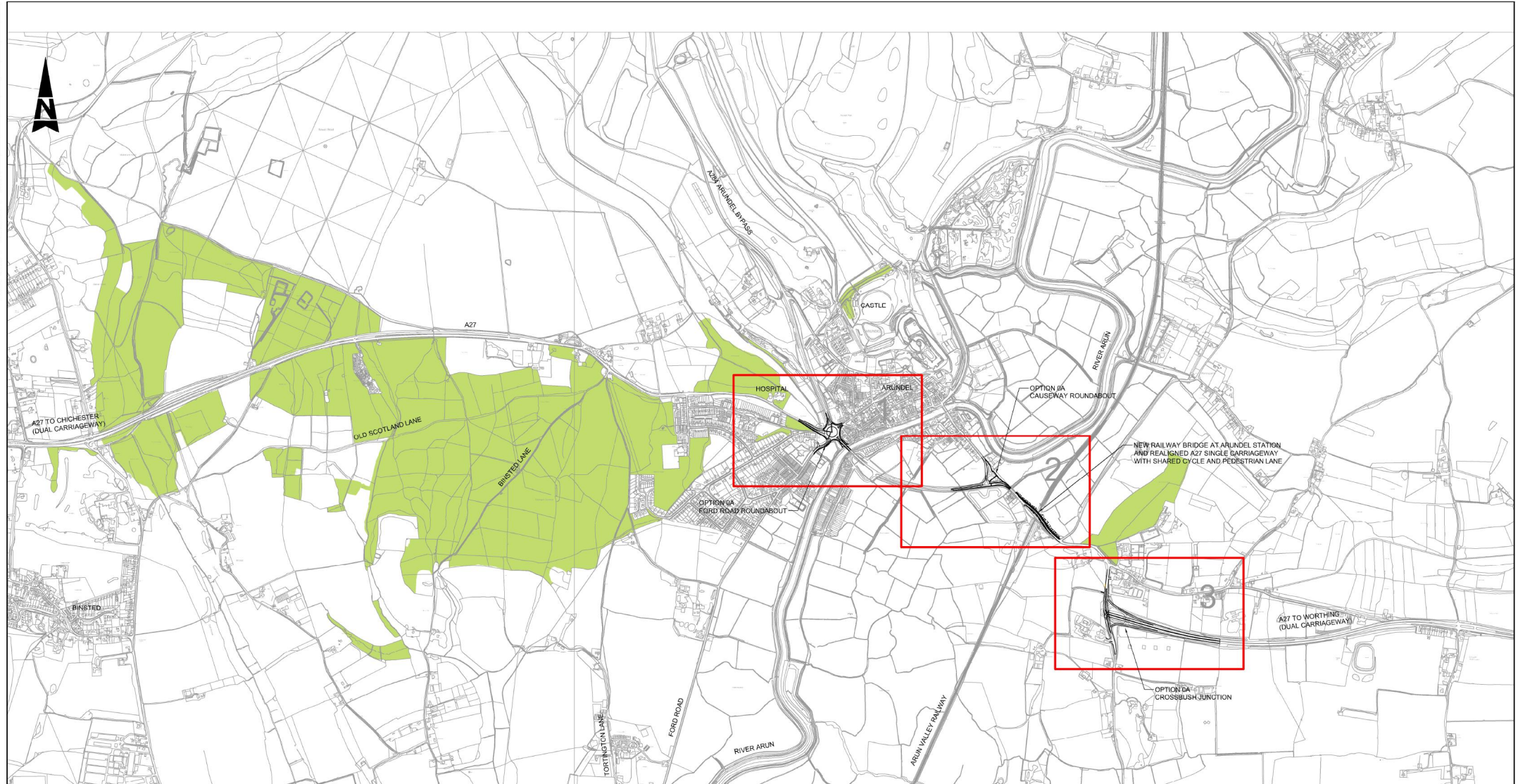
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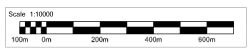
Project Title REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS		Drawing Title INDICATIVE ALIGNMENT PROPOSALS LAYOUT OPTION 5B ALTERNATIVE SHEET 9 OF 9	
Scale 1:1250	Drawn	Checked	Approved
Original Size A1	Date	Date	Date
Drawing Number HE55123 - WSP - HGN - A27AR - DR - D - 0709	Originator	Volume	Project Ref. No. 70019688
Location	Type	Date	Revision P01.1

DO NOT SCALE

100
Millimeters
0 10



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NOTES:
1. FOR LAYOUTS REFER TO DRG. NOS. HE55123-WSP-VUT-A27AR-DR-D-0101 TO 0103

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).	
Construction	
Maintenance / Cleaning	
Use	
Decommissioning / Demolition	

Rev	Date	Description	By	CHK'd	App'd
P01.1		Final Issue			

Drawing Status: **WORK IN PROGRESS** Subtitle: **S0**

WSP
Westbrook Mills
Borough Road
Godalming
Surrey
GU7 2AZ
Tel: +44 (0)1483 528400
Fax: +44 (0)1483 528989
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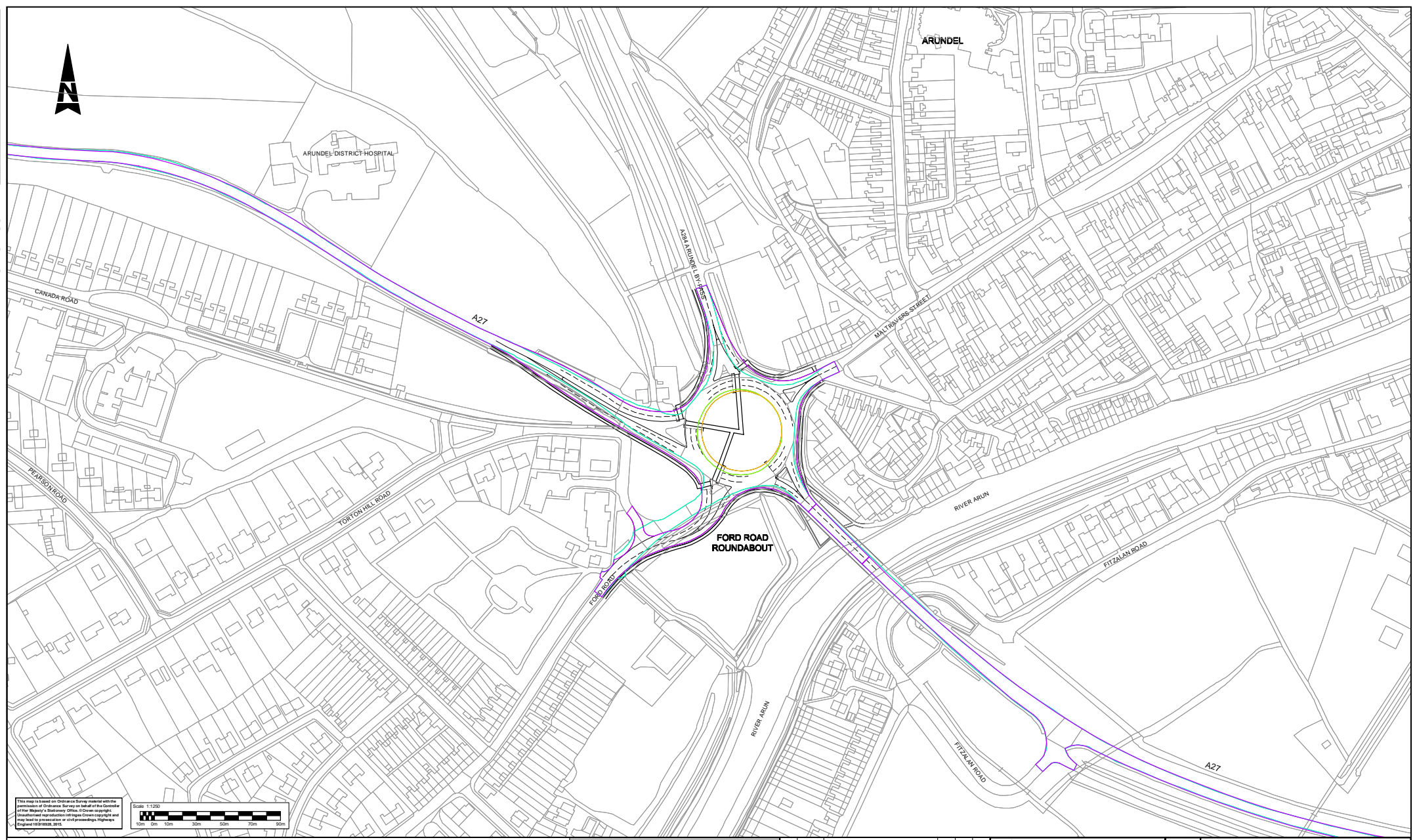
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Client: **Working on behalf of**
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REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS	
Drawing Title: DRAINAGE STRATEGY OPTION 0A KEY PLAN	
Scale: 1:10000	Drawn: --- Checked: --- Approved: --- Authorised: ---
Original Size: A1	Date: --- Date: --- Date: --- Date: ---
Drawing Number: HE55123 - WSP - HDG - A27AR - DR - D - 0100	Project Ref. No: 3514447G
Location: ---	Revision: P01.1

DO NOT SCALE

Millimetres
0 10 100



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Scale 1:1250

- NOTES:**
1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0100.
- KEY:**
- MANHOLE
 - SOAKAWAY
 - GULLY
 - CATCHPIT
 - OUTLET
 - HEADWALL
 - PETROL INTERCEPTOR
 - ◆ FLOW DIRECTION
 - DRAINAGE CARRIER
 - SEWER
 - FILTER DRAIN
 - FILTER DRAIN
 - FILTER DRAIN ON BRIDGE DECK
 - CATEGORY 3 DEFECT
 - CATEGORY 4 DEFECT
 - CATEGORY 5 DEFECT
 - ATTENUATION POND
 - DRAINAGE DITCH

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION			
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).			
Construction			
Maintenance / Cleaning			
Use			
Decommissioning / Demolition			
PO1.1	---	First Issue	---
Rev.	Date	Description	By / Chkd / App'd

Drawing Status: **WORK IN PROGRESS**

Subsidiary: **S0**

WSP
Westbrook Mills
Borough Road
Godalming
Surrey
GU7 2AZ
Tel: +44 (0)1483 528400
Fax: +44 (0)1483 528989
www.wsp-uk.co.uk

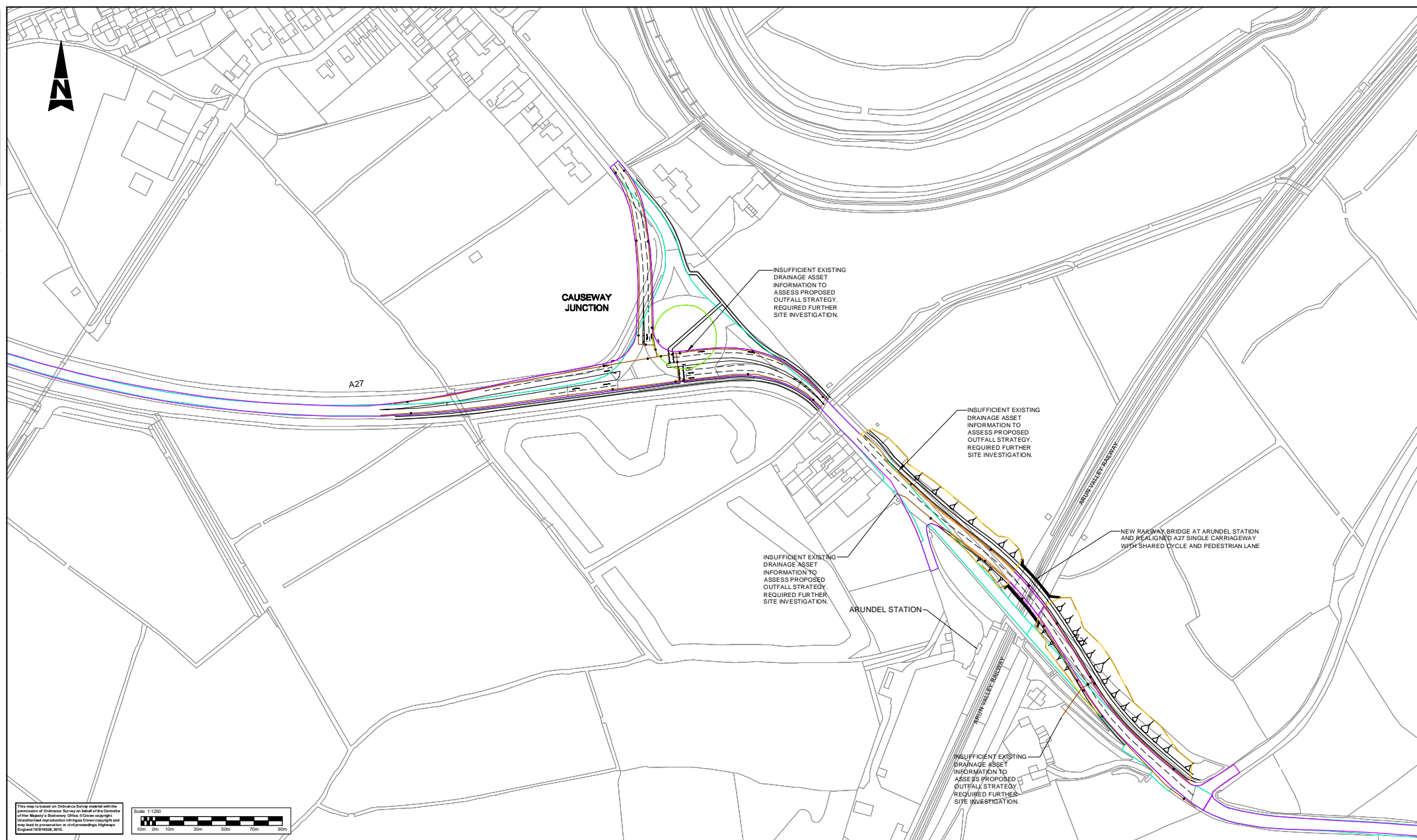
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Client: **Working on behalf of highways england**

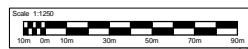
REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS			
Drawing Title: DRAINAGE STRATEGY OPTION 0A SHEET 1 OF 3			
Scale: 1:1250	Drawn: ---	Checked: ---	Approved: ---
Original Size: A1	Date: ---	Date: ---	Date: ---
Drawing Number: HE551523 - WSP - HDG - A27AR - DR - D - 0101	Project: ---	Volume: ---	Project Ref. No: 3514447G
Location: ---	Type: ---	Role: ---	Revision: P01.1

DO NOT SCALE

100
0 10
Millimetres



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NOTES:
1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0100.

- KEY:**
- MANHOLE
 - SOAKAWAY
 - GULLY
 - CATCHPIT
 - OUTLET
 - HEADWALL
 - PETROL INTERCEPTOR
 - ◆ FLOW DIRECTION
 - DRAINAGE CARRIER
 - SEWER
 - FILTER DRAIN
 - FILTER DRAIN
 - FILTER DRAIN ON BRIDGE DECK
 - CATEGORY 3 DEFECT
 - CATEGORY 4 DEFECT
 - CATEGORY 5 DEFECT
 - ATTENUATION POND
 - DRAINAGE DITCH

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction					
Maintenance / Cleaning					
Use					
Decommissioning / Demolition					

Rev	Date	Description	By	Chkd	App'd
P01.1		First Issue			

Drawing Status: **WORK IN PROGRESS**

Westbrook Mills
 Borough Road
 Godalming
 Surrey
 GU7 2AZ
 Tel: +44 (0)1483 528400
 Fax: +44 (0)1483 528989
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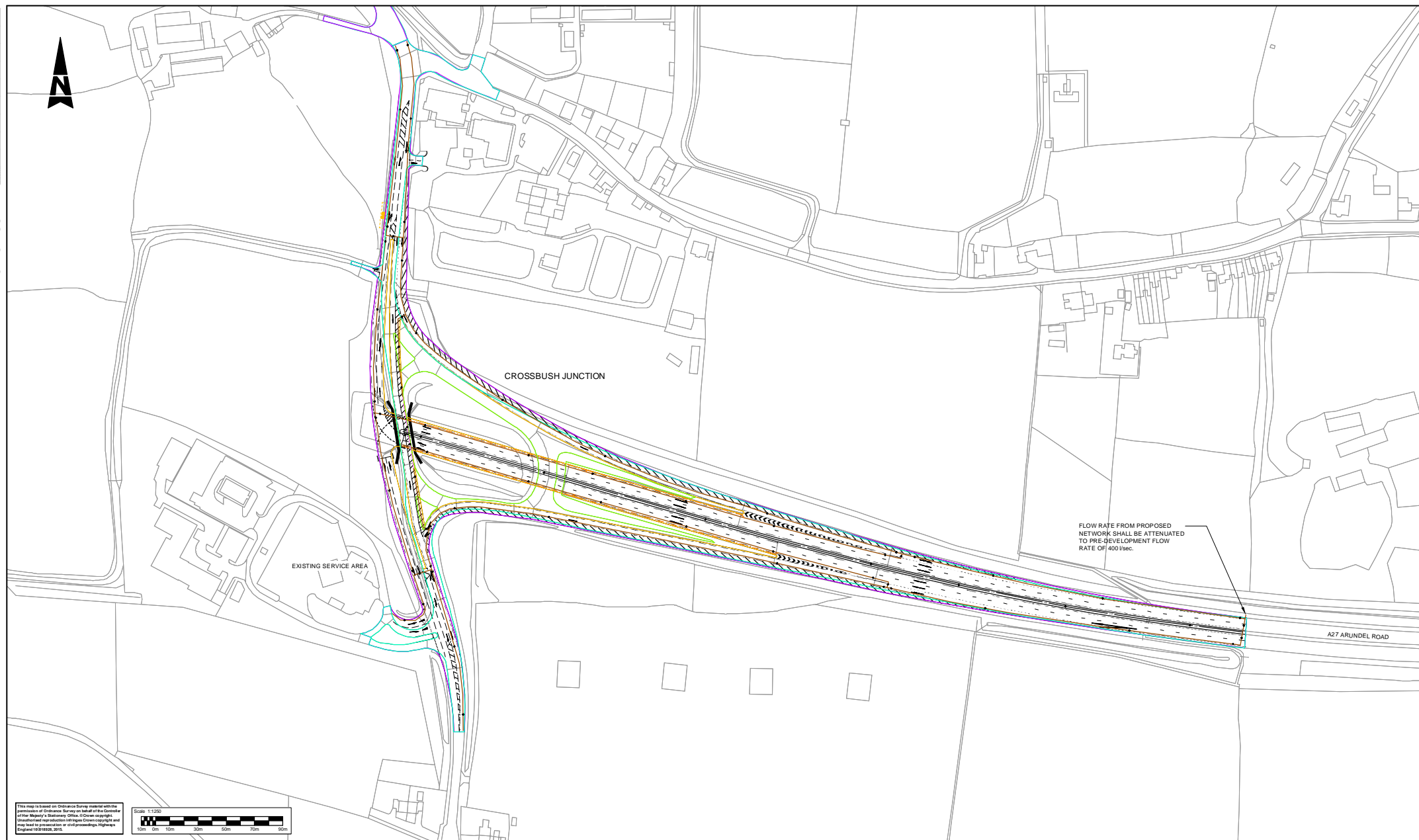
 Working on behalf of **highways england**

Subsidiary: **S0** Project Title: **REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS**

Drawing Title: DRAINAGE STRATEGY OPTION 0A SHEET 2 OF 3					
Scale: 1:1250	Drawn: ---	Checked: ---	Approved: ---	Authorised: ---	
Original Size: A1	Date: ---	Date: ---	Date: ---	Date: ---	
Drawing Number: ---	Project: ---	Originator: ---	Volume: ---	Project Ref. No: 3514447G	Revision: ---
HE551523 - WSP - HDG - A27AR - DR - D - 0102				P01.1	
Location: ---	Type: ---	Role: ---	Number: ---		

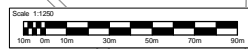
DO NOT SCALE

100
0 10
Millimetres



FLOW RATE FROM PROPOSED NETWORK SHALL BE ATTENUATED TO PRE-DEVELOPMENT FLOW RATE OF 400 lsec.

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NOTES:
1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0100.

- KEY:**
- MANHOLE
 - SOAKAWAY
 - GULLY
 - CATCHPIT
 - OUTLET
 - HEADWALL
 - PETROL INTERCEPTOR
 - ◆ FLOW DIRECTION
 - DRAINAGE CARRIER
 - SEWER
 - FILTER DRAIN
 - FILTER DRAIN
 - FILTER DRAIN ON BRIDGE DECK
 - CATEGORY 3 DEFECT
 - CATEGORY 4 DEFECT
 - CATEGORY 5 DEFECT
 - ATTENUATION POND
 - DRAINAGE DITCH

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION			
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).			
Construction			
Maintenance / Cleaning			
Use			
Decommissioning / Demolition			
Rev	Date	Description	By
P01.1		First Issue	

Drawing Status: **WORK IN PROGRESS**

Subsidiary: **S0**

Project Title: **REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS**

WSP Westbrook Mills, Borough Road, Godalming, Surrey, GU7 2AZ. Tel: +44 (0)1483 528400, Fax: +44 (0)1483 528989, www.wsp-uk.co.uk

PARSONS BRINCKERHOFF

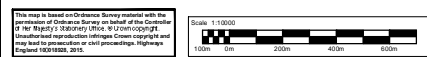
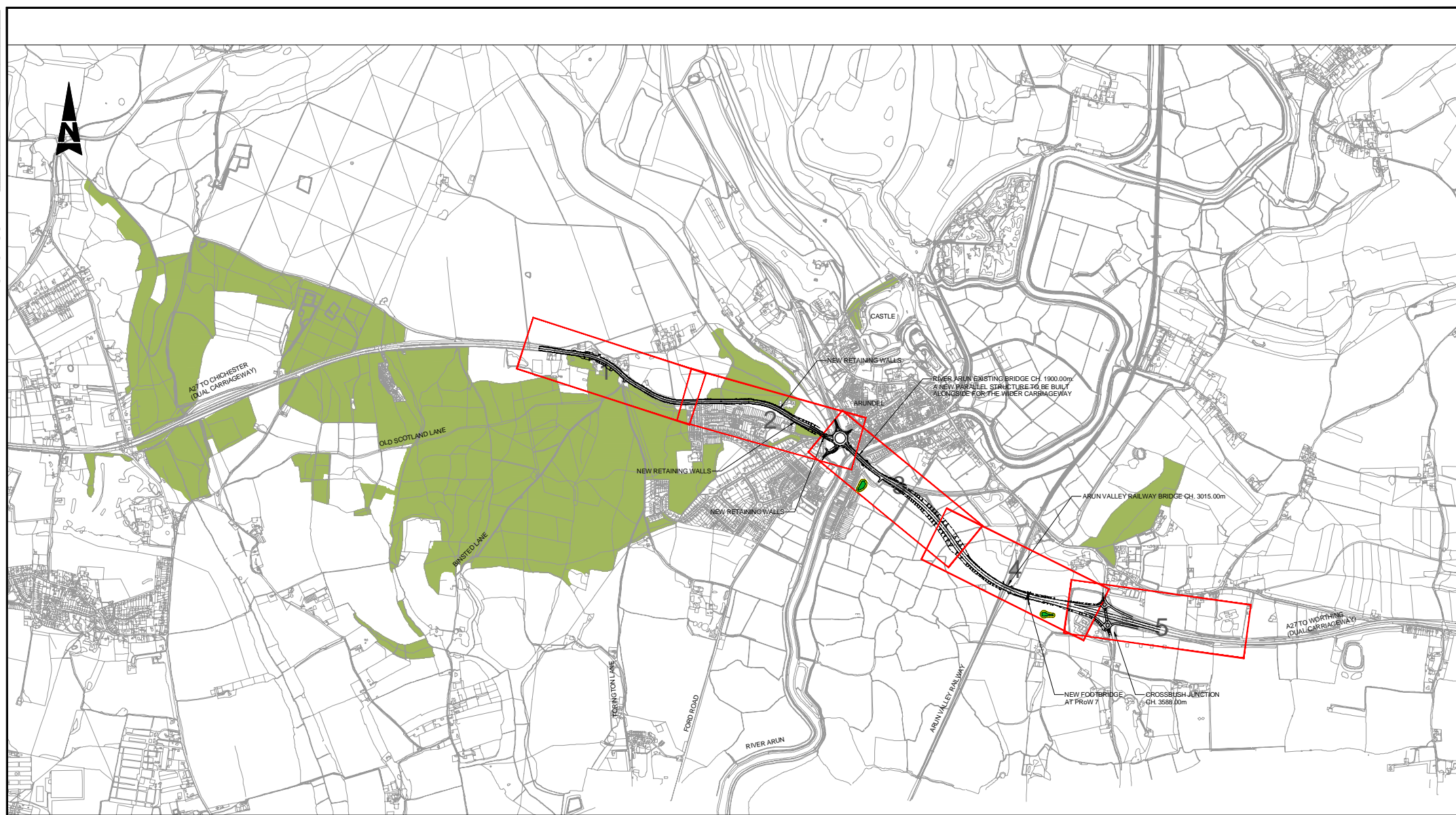
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Client: **Working on behalf of highways england**

Drawing Title: DRAINAGE STRATEGY OPTION 0A SHEET 3 OF 3				
Scale: 1:1250	Drawn: ---	Checked: ---	Approved: ---	Authorised: ---
Original Size: A1	Date: ---	Date: ---	Date: ---	Date: ---
Project: HE551523 - WSP - HDG - A27AR - DR - D - 0103	Originator: ---	Volume: ---	Project Ref. No: 3514447G	Revision: P01.1
Location: ---	Type: ---	Role: ---	Number: ---	

DO NOT SCALE

100
0 10
Millimetres



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NOTES:
1. FOR LAYOUTS REFER TO DRG. NOS. HE55123-WSP-HDG-A27AR-DR-D-0501 TO 0505.
KEY:
 ATTENUATION POND

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction					
Maintenance / Cleaning					
Use					
Decommissioning / Demolition					

Rev	Date	Description	By	CHK'd	APP'd
P01.1		First Issue			

WORK IN PROGRESS

WSP
Westbrook Mills
Borough Road
Godalming
Surrey
GU7 2AZ
Tel: +44 (0)1483 528400
Fax: +44 (0)1483 528989
www.wsp-pb.co.uk

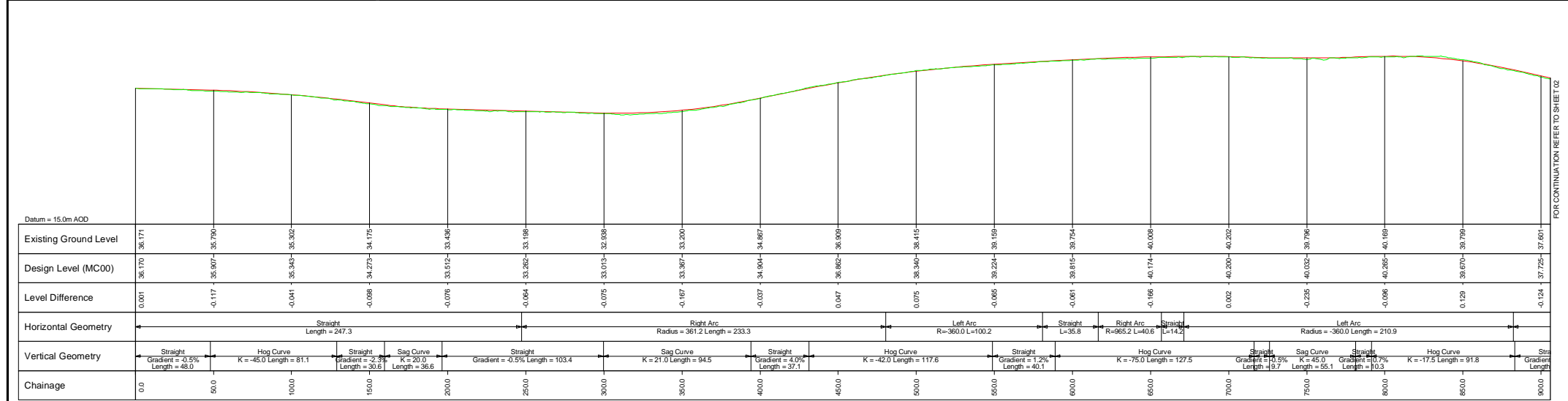
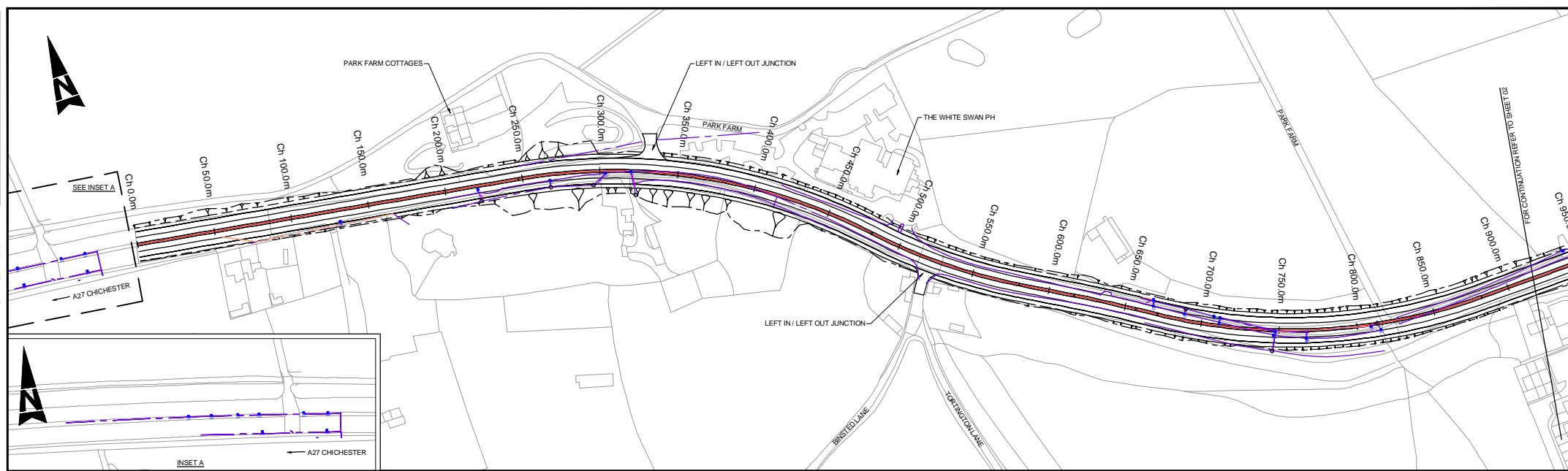
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Working on behalf of
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Project Title	REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS			
Drawing Title	DRAINAGE STRATEGY OPTION 1 KEY PLAN			
Scale	1:10000	Drawn	Checked	Approved
Original Size	A1	Date	Date	Date
Project Ref. No.	HE55123 - WSP - HDG - A27AR - DR - D - 0500	Volume	3514447G	
Revision		Type	Date	Number
P01.1				

DO NOT SCALE

Millimetres
0 10 100



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Scale 1:1250

- NOTES:**
1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0500.
- KEY:**
- MANHOLE
 - SOAKAWAY
 - GULLY
 - CATCHPIT
 - OUTLET
 - ▬ HEADWALL
 - PETROL INTERCEPTOR
 - FLOW DIRECTION
 - DRAINAGE CARRIER
 - SEWER
 - FILTER DRAIN
 - FILTER DRAIN
 - FILTER DRAIN ON BRIDGE DECK
 - CATEGORY 3 DEFECT
 - CATEGORY 4 DEFECT
 - CATEGORY 5 DEFECT
 - ATTENUATION POND
 - DRAINAGE DITCH

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION				
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).				
Construction				
Maintenance / Cleaning				
Use				
Decommissioning / Demolition				
P01.1	---	First Issue	---	---
Rev	Date	Description	By	Chk'd App'd

Drawing Status: **WORK IN PROGRESS** Status: **S0**

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Westbrook Mills
Borough Road
Godalming
Surrey
GU7 2AZ
Tel: +44 (0)1483 528400
Fax: +44 (0)1483 528989
www.wsp-pb.co.uk

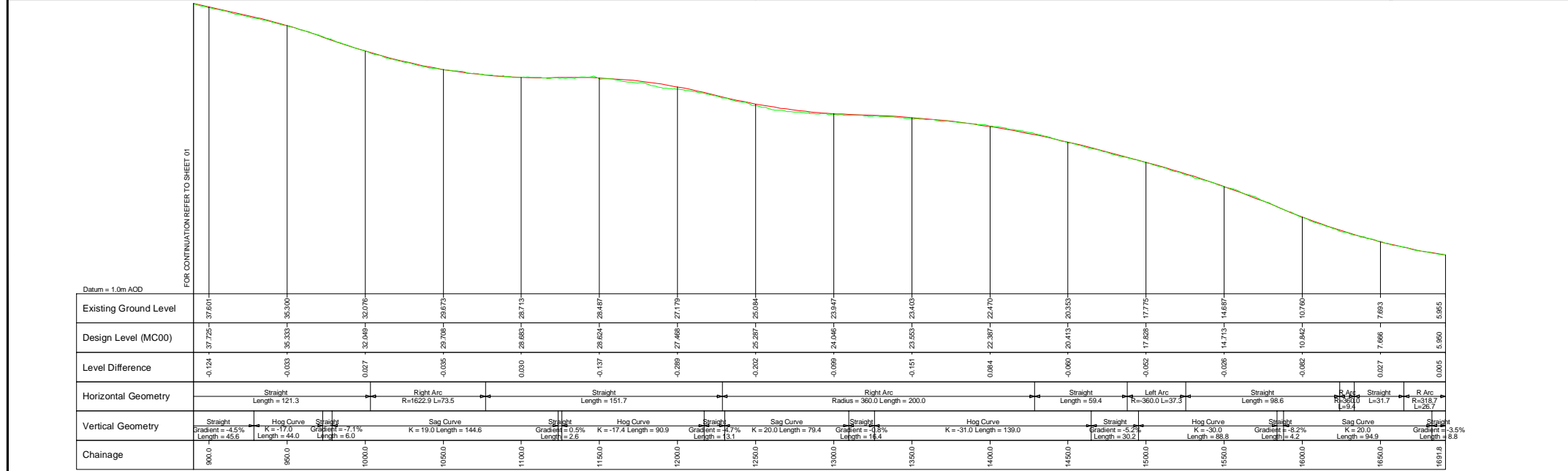
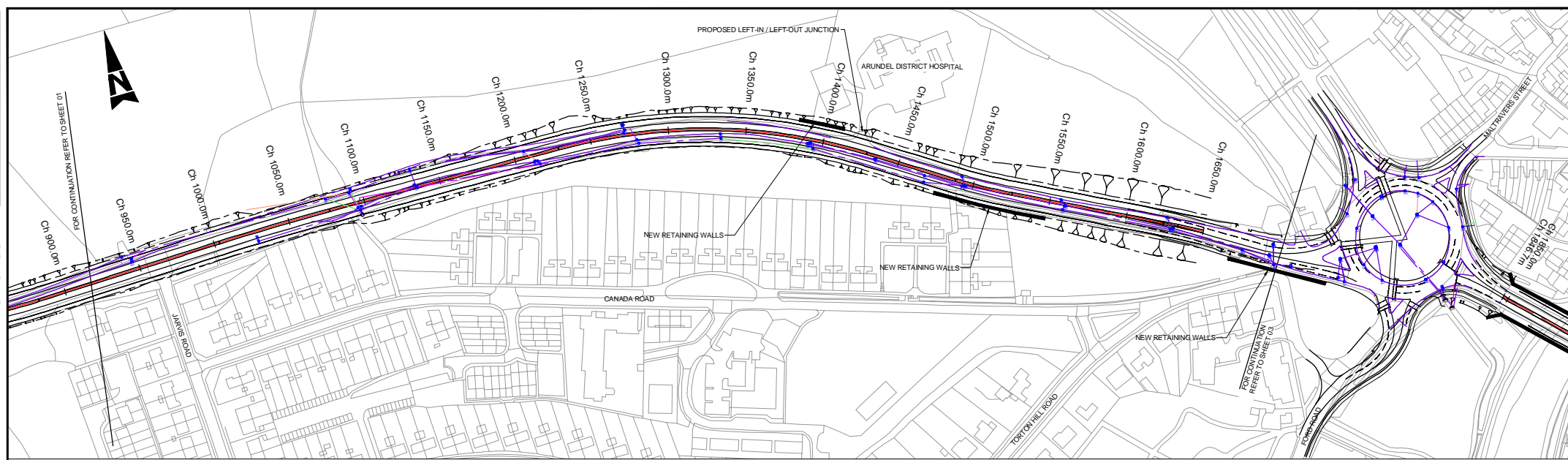
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REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS				
Drawing Title: DRAINAGE STRATEGY OPTION 1 SHEET 1 OF 5				
Scale: 1:1250	Drawn: ---	Checked: ---	Approved: ---	Authorised: ---
Original Size: A1	Date: ---	Date: ---	Date: ---	Date: ---
Drawing Number: HE55123 - WSP - HDG - A27AR - DR - D - 0501	Project: ---	Originator: ---	Volume: ---	Project Ref No: 3514447G
Location: ---	Type: ---	Date: ---	Number: ---	Revision: P01.1

DO NOT SCALE

Millimetres
0 10 100



NOTES:
1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0500.

KEY:

- MANHOLE
- DRAINAGE CARRIER
- ATTENUATION POND
- SOAKAWAY
- SEWER
- DRAINAGE DITCH
- GULLY
- FILTER DRAIN
- FILTER DRAIN
- CATCHPIT
- FILTER DRAIN ON BRIDGE DECK
- OUTLET
- CATEGORY 3 DEFECT
- HEADWALL
- CATEGORY 4 DEFECT
- PETROL INTERCEPTOR
- CATEGORY 5 DEFECT
- FLOW DIRECTION

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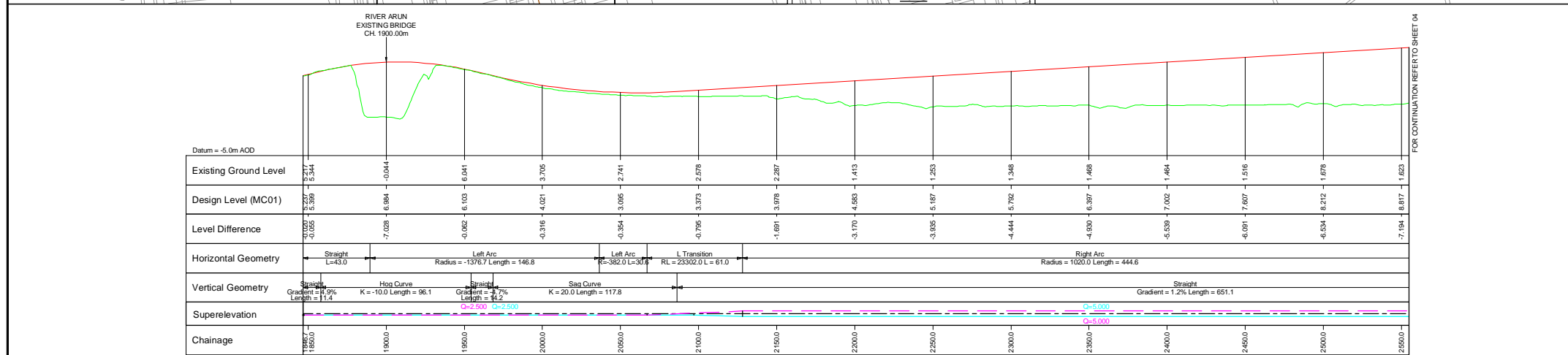
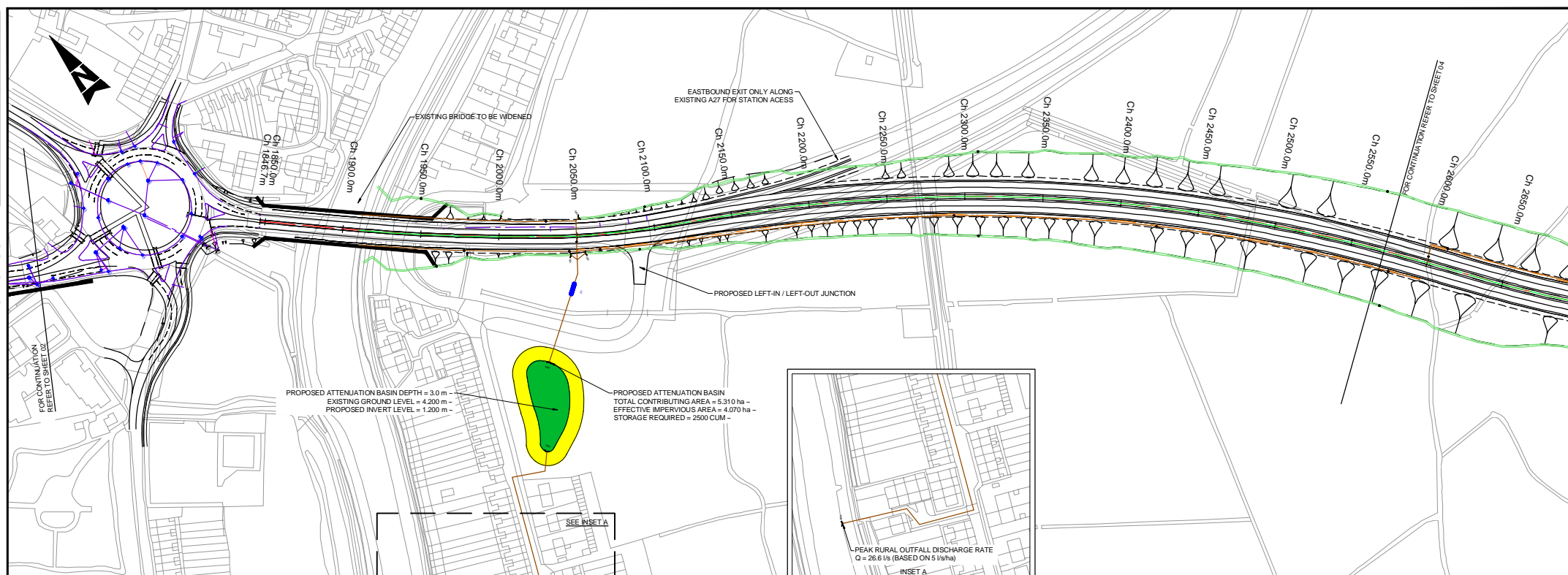
Scale 1:1250

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION			
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).			
Construction			
Maintenance / Cleaning			
Use			
Decommissioning / Demolition			
PO1.1	...	First Issue	...
Rev	Date	Description	By Csk/A

Drawing Status: WORK IN PROGRESS		Stability: S0	Project Title: REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS
 Westbrock Mills Borough Road Godalming Surrey GU7 2AZ Tel: +44 (0)1483 528400 Fax: +44 (0)1483 528989 www.wsp-eb.co.uk		Drawing Title: DRAINAGE STRATEGY OPTION 1 SHEET 2 OF 5	
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Client:		Drawn: ...	Checked: ...
Project: HE551523 - WSP - HDG - A27AR - DR - D - 0502		Approved: ...	Authorized: ...
Drawing Number: A1		Original Scale: A1	Project Ref No: 3514447G
Revision: P01.1		Date: ...	Volume: I
Date: ...		Date: ...	Revision: ...
Description: ...		Date: ...	Number: ...
By: ...		Date: ...	Number: ...

DO NOT SCALE

Millimetres



NOTES:

1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0500.

KEY:

- MANHOLE
- SOAKAWAY
- GULLY
- CATCHPIT
- OUTLET
- HEADWALL
- PETROL INTERCEPTOR
- FLOW DIRECTION
- DRAINAGE CARRIER
- SEWER
- FILTER DRAIN
- FILTER DRAIN
- FILTER DRAIN ON BRIDGE DECK
- CATEGORY 3 DEFECT
- CATEGORY 4 DEFECT
- CATEGORY 5 DEFECT
- ATTENUATION POND
- DRAINAGE DITCH

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Scale 1:1250

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION			
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).			
Construction			
Maintenance / Cleaning			
Use			
Decommissioning / Demolition			
PO1.1	First Issue		
Rev	Date	Description	By / Csk / App'd

Drawing Status: **WORK IN PROGRESS**

Westbrook Mills
Borough Road
Godalming
Surrey
GU7 2AZ
Tel: +44 (0)1483 528400
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Project Title: **REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS**

Drawing Title: **DRAINAGE STRATEGY OPTION 1 SHEET 3 OF 5**

Scale: 1:1250

Drawn	Checked	Approved	Authorised
Original Scale: A1	Date	Date	Date

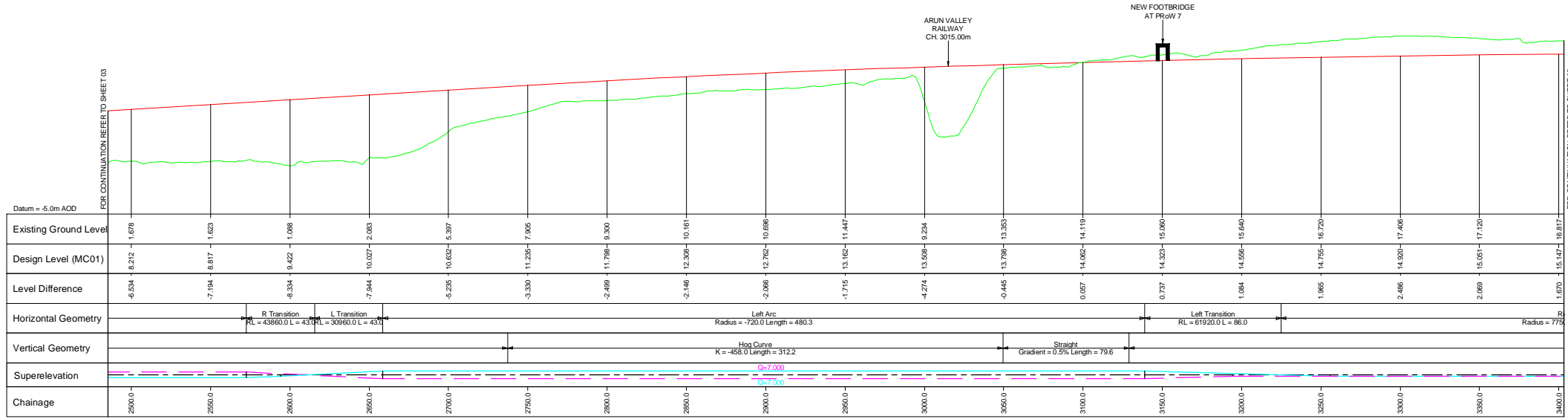
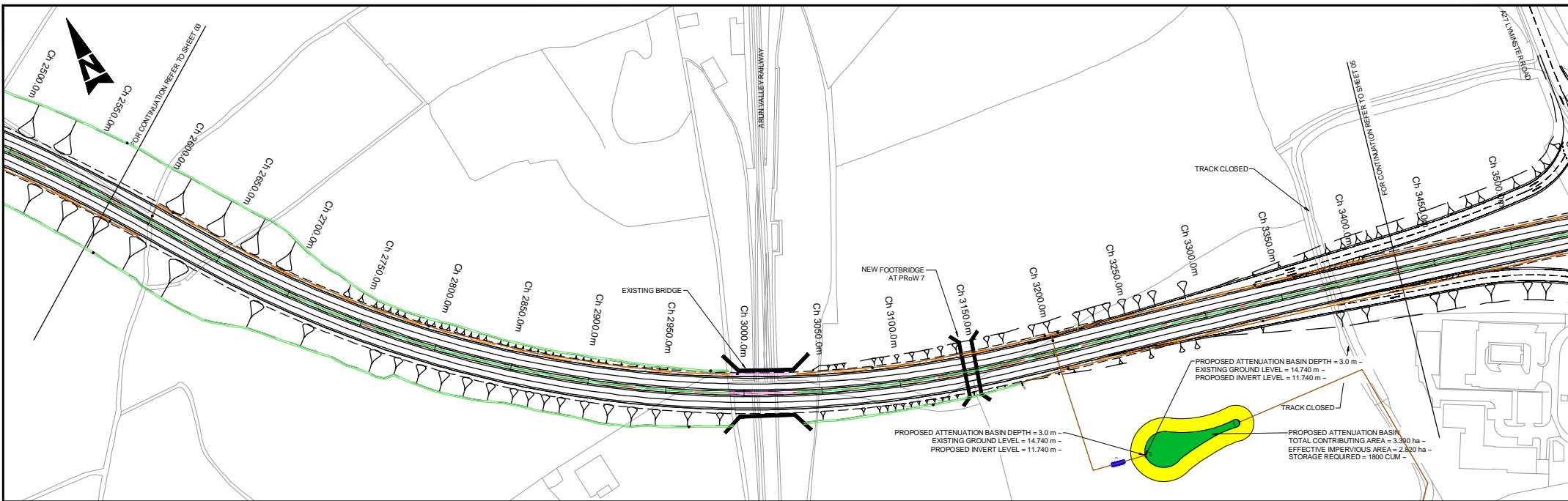
Drawing Number: HE55123 - WSP - HDG - A27AR - DR - D - 0503

Project Ref No: 3514447G

Revision: P01.1

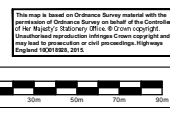
DO NOT SCALE

Millimetres
0 10 100



NOTES:
1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0500.

- KEY:**
- MANHOLE
 - SOAKAWAY
 - GULLY
 - CATCHPIT
 - OUTLET
 - ▬ HEADWALL
 - PETROL INTERCEPTOR
 - ▬ FLOW DIRECTION
 - ▬ DRAINAGE CARRIER
 - ▬ SEWER
 - ▬ FILTER DRAIN
 - ▬ FILTER DRAIN
 - ▬ FILTER DRAIN ON BRIDGE DECK
 - ▬ CATEGORY 3 DEFECT
 - ▬ CATEGORY 4 DEFECT
 - ▬ CATEGORY 5 DEFECT
 - ▭ ATTENUATION POND
 - ▬ DRAINAGE DITCH



SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction	Maintenance / Cleaning	Use	Decommissioning / Demolition

Rev	Date	Description	By	Chg	App'd
P01.1		First issue			

Drawing Status: **WORK IN PROGRESS**

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Westbrook Mills
Borough Road
Godalming
Surrey
GU7 2AZ
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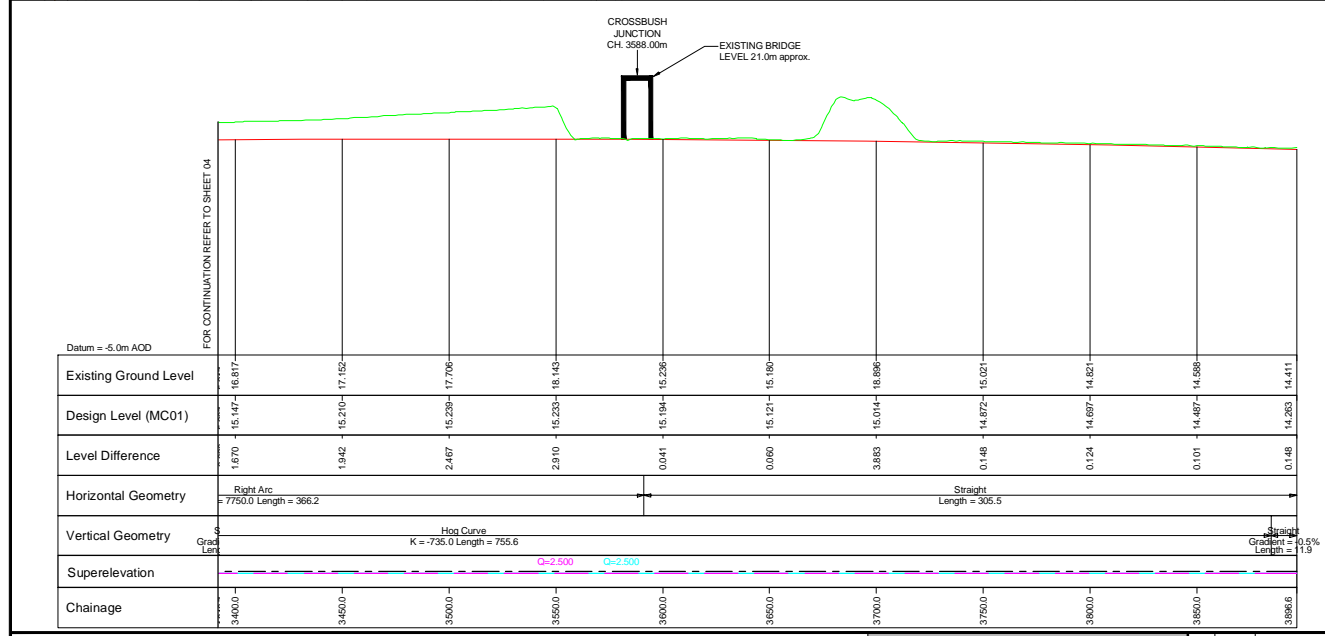
Project Title: **REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS**

Drawing Title: **DRAINAGE STRATEGY OPTION 1 SHEET 4 OF 5**

Scale: 1:1250	Drawn: <input type="checkbox"/>	Checked: <input type="checkbox"/>	Approved: <input type="checkbox"/>	Authorised: <input type="checkbox"/>
Original Size: A1	Date: <input type="checkbox"/>	Date: <input type="checkbox"/>	Date: <input type="checkbox"/>	Date: <input type="checkbox"/>
Drawing Number: HE551523 - WSP - HDG - A27AR - DR - D - 0504	Project Ref No: 3514447G	Revision: P01.1		

DO NOT SCALE

Millimetres
0 10 100



NOTES:
1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0500.

KEY:

- MANHOLE
- DRAINAGE CARRIER
- ATTENUATION POND
- SOAKAWAY
- SEWER
- DRAINAGE DITCH
- GULLY
- FILTER DRAIN
- FILTER DRAIN ON BRIDGE DECK
- CATCHPIT
- CATEGORY 3 DEFECT
- CATEGORY 4 DEFECT
- OUTLET
- CATEGORY 5 DEFECT
- HEADWALL
- PETROL INTERCEPTOR
- FLOW DIRECTION

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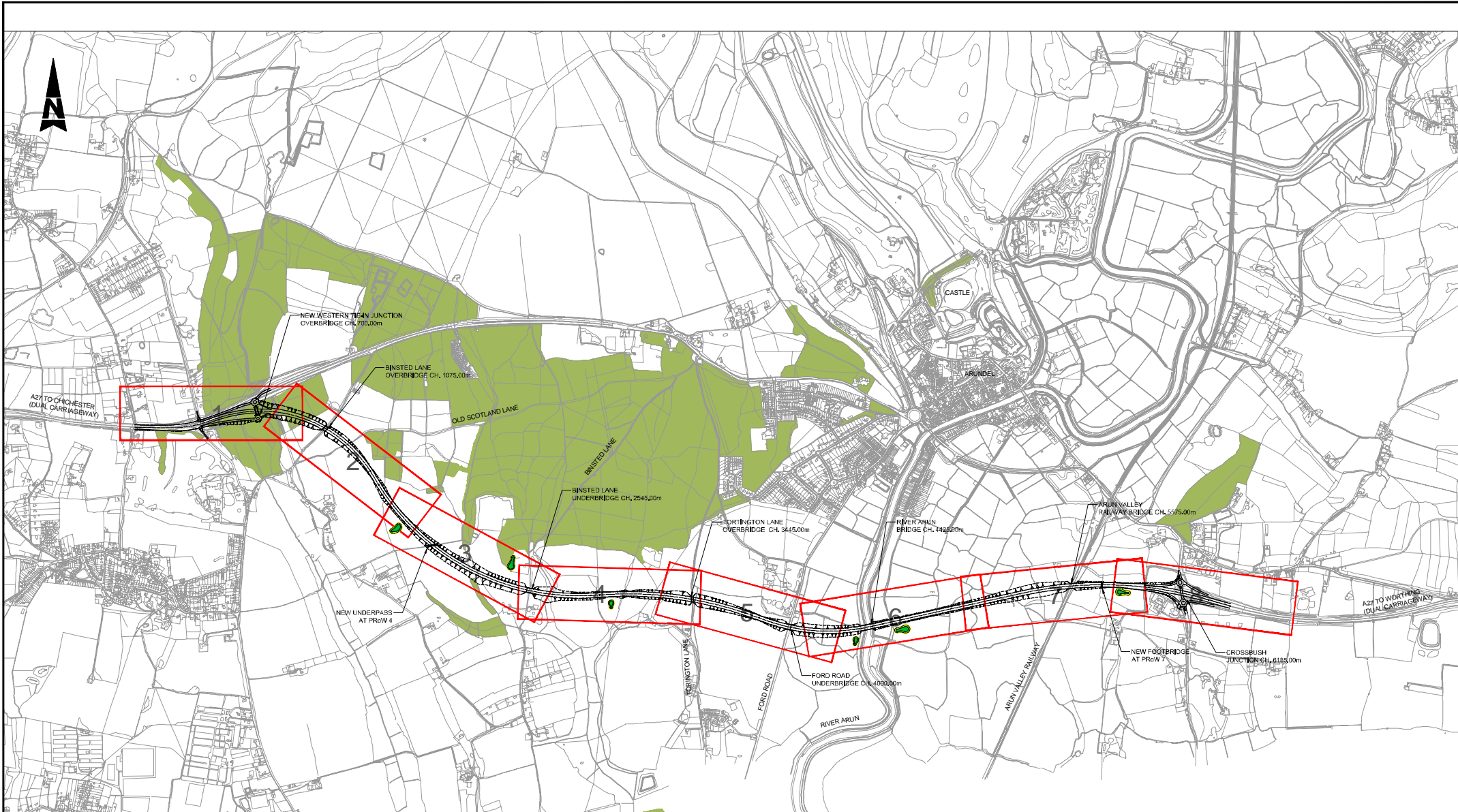
Scale 1:1250

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION			
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).			
Construction			
Maintenance / Cleaning			
Use			
Decommissioning / Demolition			
Rev	Date	Description	By Csk/g App'd
P01.1		First Issue	

WORK IN PROGRESS Copyright © WSP Group (2016)	S0	REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS DRAINAGE STRATEGY OPTION 1 SHEET 5 OF 5
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Working on behalf of 		Drawing Number HE55123 - WSP - HDG - A27AR - DR - D - 0505 Project Location
Project Ref No. 3514447G Revision P01.1		Date Date Date Date

DO NOT SCALE

100
0 10
Millimetres



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Scale: 1:10000

NOTES:
1. FOR LAYOUTS REFER TO DRG. NOS. HE55123-WSP-HDG-A27AR-DG-D-0051 TO 0058.

KEY:
 ATTENUATION POND

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction					
Maintenance / Cleaning					
Use					
Decommissioning / Demolition					

Rev	Date	Description	By	CHK'd	APP'd
P01.1		First Issue			

WORK IN PROGRESS

WSP
Westbrook Mills
Borough Road
Godalming
Surrey
GU7 2AZ
Tel: +44 (0)1483 528400
Fax: +44 (0)1483 528989
www.wsp-pb.co.uk

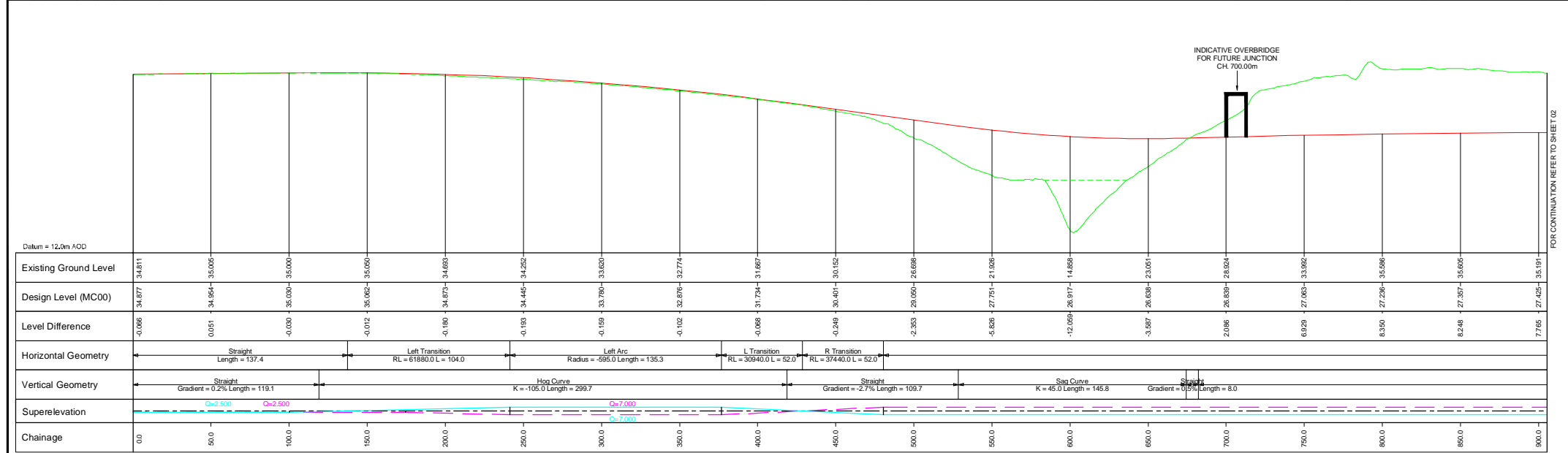
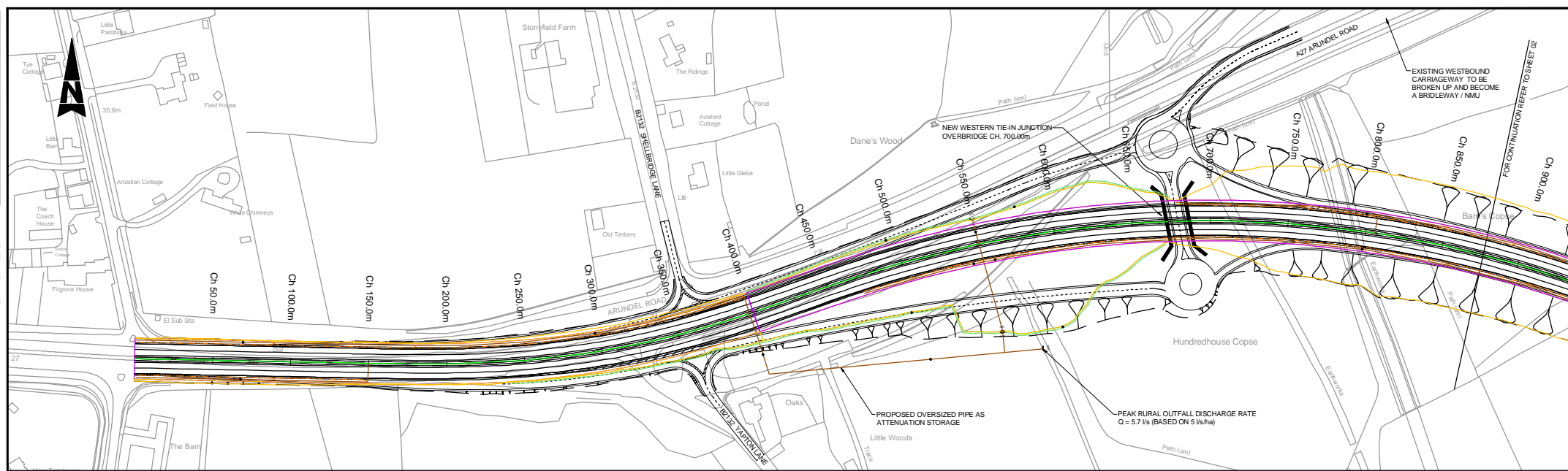
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Project Title		REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS			
Drawing Title		DRAINAGE STRATEGY OPTION 5A KEY PLAN			
Scale	Drawn	Checked	Approved	Authorised	
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Original Size	Date	Date	Date	Date	
A1	---	---	---	---	
Project	Originator	Volume	Project Ref. No.		
HE551523 - WSP - HDG - A27AR - DR - D - 0600			3514447G		
Location	Type	Date	Number	Revision	
				P01.1	

DO NOT SCALE

Millimetres
0 10 100



NOTES:
1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0601.

KEY:

- MANHOLE
- SOAKAWAY
- GULLY
- CATCHPIT
- OUTLET
- ▬ HEADWALL
- ▬ PETROL INTERCEPTOR
- FLOW DIRECTION
- ▬ DRAINAGE CARRIER
- ▬ SEWER
- ▬ FILTER DRAIN
- ▬ FILTER DRAIN
- ▬ FILTER DRAIN ON BRIDGE DECK
- ▬ CATEGORY 3 DEFECT
- ▬ CATEGORY 4 DEFECT
- ▬ CATEGORY 5 DEFECT
- ▬ ATTENUATION POND
- ▬ DRAINAGE DITCH

Scale 1:1250

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SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction	Maintenance / Cleaning	Use	Decommissioning / Demolition

Rev	Date	Description	By	Chk'd	App'd
P01.1		First Issue			

Drawing Status: **WORK IN PROGRESS**

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Borough Road
Godalming
Surrey
GU7 2AZ
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england**

Project Title: **REGIONAL INVESTMENT PROGRAMME
A27 ARUNDEL BYPASS**

Drawing Title: **DRAINAGE STRATEGY
OPTION 5A
SHEET 1 OF 8**

Scale: 1:1250

Original Scale: A1

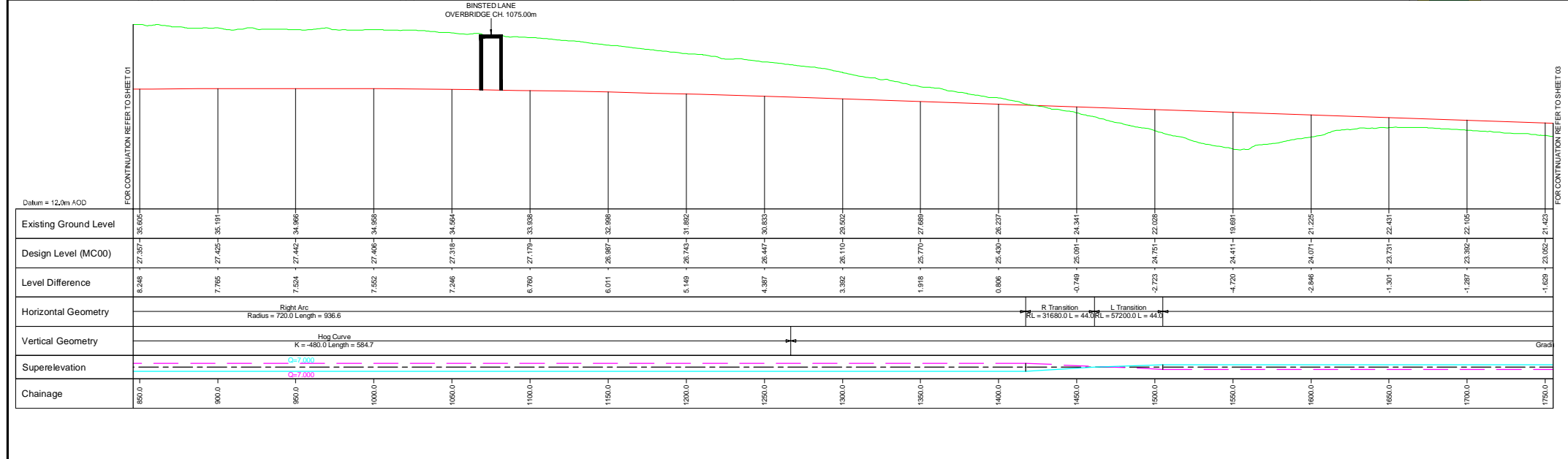
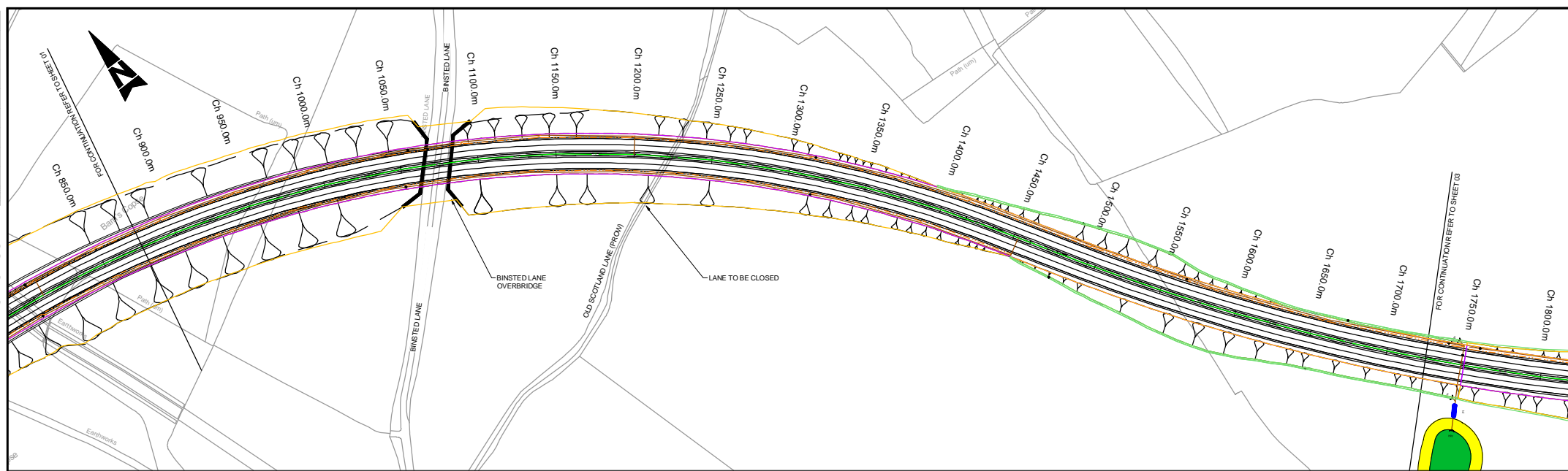
Drawing Number: HE55123 - WSP - HDG - A27AR - DR - D - 0601

Project Ref No: 3514447G

Revision: P01.1

DO NOT SCALE

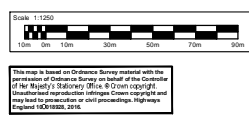
100
0 10
Millimetres



Datum = 12.0m AOD

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Design Level (MC00)	27.357	27.425	27.442	27.446	27.316	27.179	26.987	26.742	26.447	26.110	25.502	25.237	25.091	24.720	24.411	24.071	23.725	23.382	23.032	22.681
Level Difference	8.248	7.765	7.524	7.552	7.246	6.760	6.011	5.149	4.387	3.382	1.918	0.866	-0.749	-2.720	-4.720	-2.846	-1.301	-1.287	-1.629	-2.425
Horizontal Geometry	Right Arc Radius = 720.0 Length = 936.6																			
Vertical Geometry	Hog Curve K = -480.0 Length = 584.7																			
Superelevation	D = 7.000 C = 7.000																			
Chainage	850.0	900.0	950.0	1000.0	1050.0	1100.0	1150.0	1200.0	1250.0	1300.0	1350.0	1400.0	1450.0	1500.0	1550.0	1600.0	1650.0	1700.0	1750.0	1800.0

- NOTES:**
1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0602.
- KEY:**
- MANHOLE
 - SOAKAWAY
 - GULLY
 - CATCHPIT
 - OUTLET
 - HEADWALL
 - PETROL INTERCEPTOR
 - FLOW DIRECTION
 - DRAINAGE CARRIER
 - SEWER
 - FILTER DRAIN
 - FILTER DRAIN
 - FILTER DRAIN ON BRIDGE DECK
 - CATEGORY 3 DEFECT
 - CATEGORY 4 DEFECT
 - CATEGORY 5 DEFECT
 - ATTENUATION POND
 - DRAINAGE DITCH



SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).	
Construction	
Maintenance / Cleaning	
Use	
Decommissioning / Demolition	

Rev	Date	Description	By	Chk'd	App'd
P01.1		First Issue			

WORK IN PROGRESS

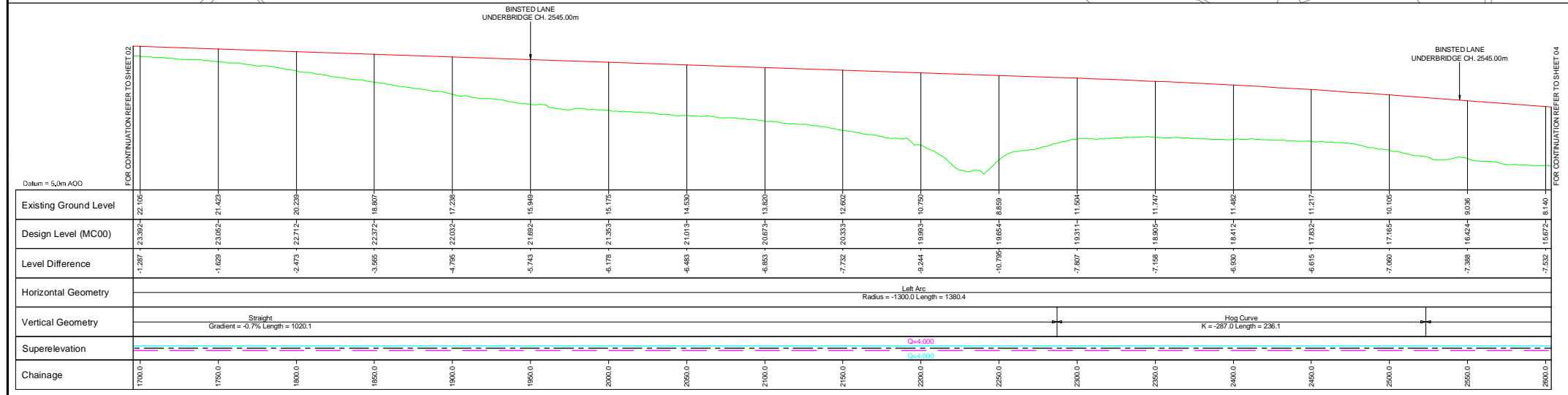
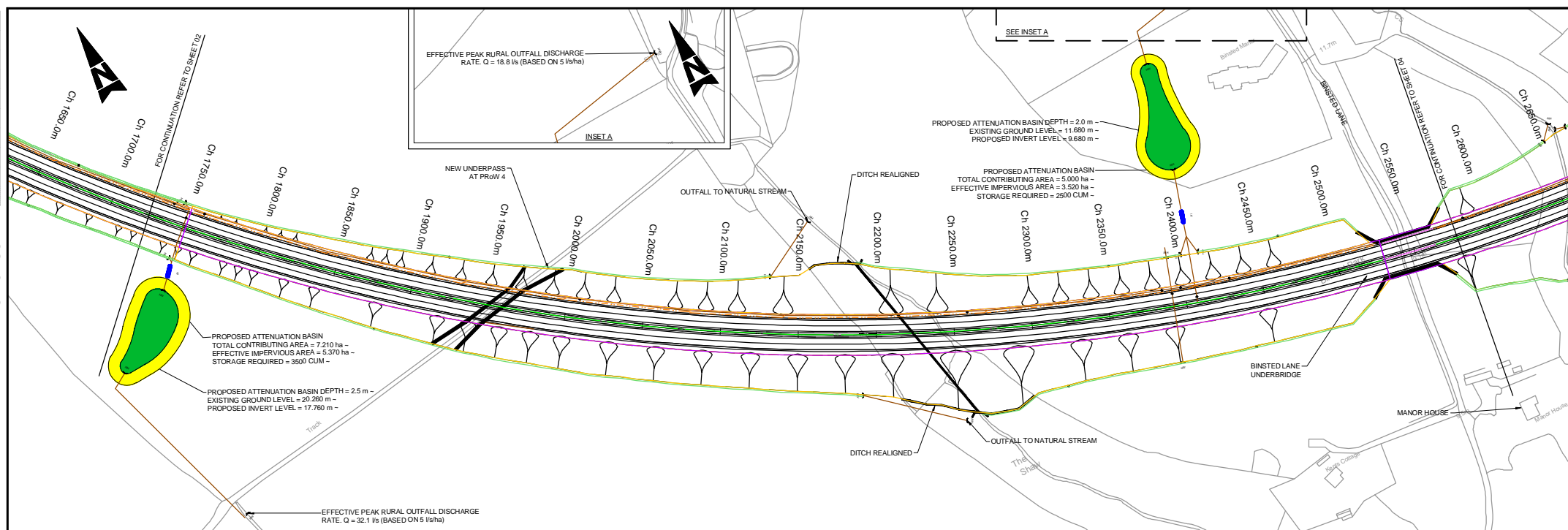
WSP
Westbrook Mills
Borough Road
Godalming
Surrey
GU7 2AZ
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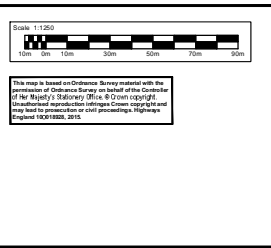
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england

REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS	
DRAINAGE STRATEGY OPTION 5A SHEET 2 OF 8	
Scale: 1:1250	Drawn: []
Original Size: A1	Checked: []
Project: HE551523 - WSP - HDG - A27AR - DR - D - 0602	Date: []
Project Ref No: 3514447G	Authorised: []
Revision: P01.1	Date: []

DO NOT SCALE



- NOTES:**
 1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0600.
- KEY:**
- MANHOLE
 - SOAKAWAY
 - GULLY
 - CATCHPIT
 - OUTLET
 - ⊕ HEADWALL
 - PETROL INTERCEPTOR
 - FLOW DIRECTION
 - DRAINAGE CARRIER
 - SEWER
 - FILTER DRAIN
 - FILTER DRAIN
 - FILTER DRAIN ON BRIDGE DECK
 - CATEGORY 3 DEFECT
 - CATEGORY 4 DEFECT
 - CATEGORY 5 DEFECT
 - ATTENUATION POND
 - DRAINAGE DITCH



Rev	Date	Description	By	Chk'd	App'd
P01.1		First Issue			

WORK IN PROGRESS

WSP
 Westbrock Mills
 Borough Road
 Godalming
 Surrey
 GU7 2AZ
 Tel: +44 (0)1483 528400
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REGIONAL INVESTMENT PROGRAMME
A27 ARUNDEL BYPASS

DRAINAGE STRATEGY
OPTION 5A
SHEET 3 OF 8

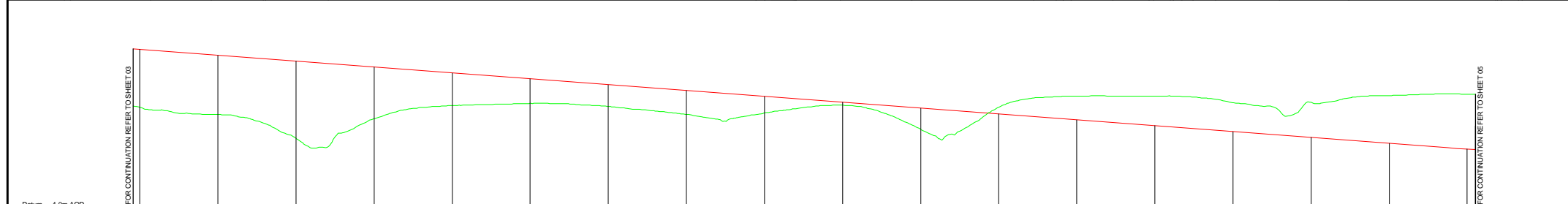
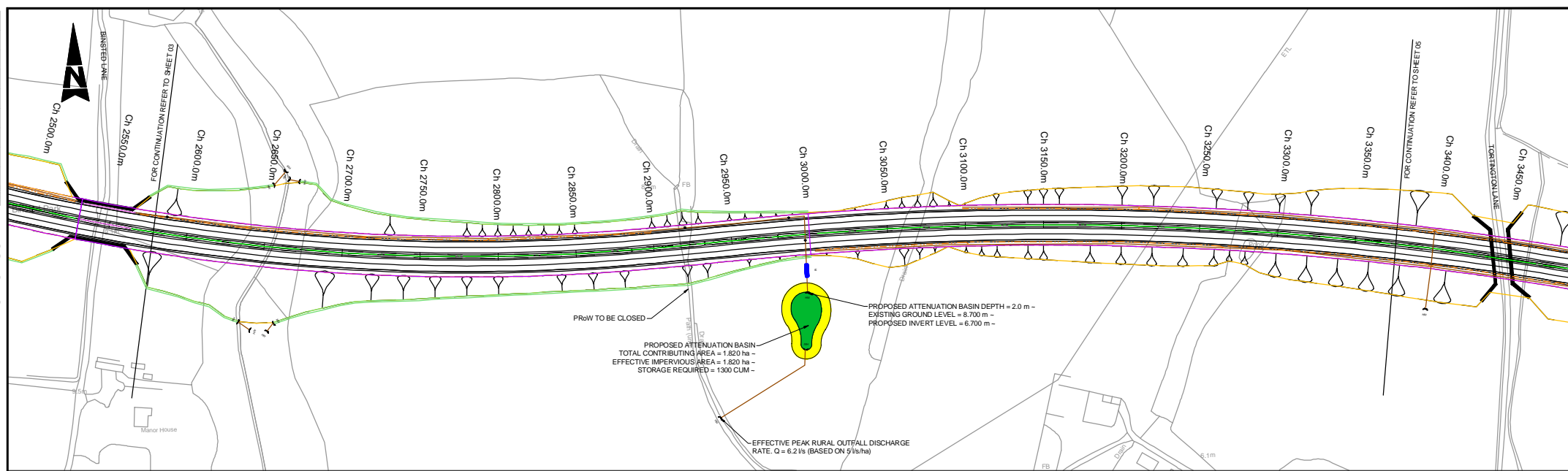
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 Drawn: [] Checked: [] Approved: [] Authorised: []

Original Size: A1
 Date: [] Date: [] Date: [] Date: []

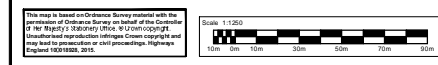
Drawing Number: HE55123 - WSP - HDG - A27AR - DR - D - 0603
 Project Ref No: 3514447G
 Revision: P01.1

DO NOT SCALE

100
0
10
Millimetres



Chainage	Existing Ground Level	Design Level (MC00)	Level Difference	Horizontal Geometry	Vertical Geometry	Superelevation
2500.0	9.036	16.424	-7.388			
2600.0	8.140	15.672	-7.532			
2650.0	5.083	14.321	-9.238			
2700.0	7.589	14.170	-6.581			
2750.0	9.247	13.419	-4.172			
2800.0	9.536	12.668	-3.132			
2850.0	9.146	11.917	-2.770			
2900.0	8.139	11.166	-3.027	L Transition RL = 61100.0 L = 47.0		
2950.0	8.313	10.414	-2.102	R Transition RL = 94000.0 L = 47.0		
3000.0	9.304	9.663	-0.359	Straight Gradient = -1.5% Length = 864.2		
3050.0	6.225	8.912	-2.687			
3100.0	9.039	8.161	-0.878			
3150.0	10.455	7.410	-3.045			
3200.0	10.451	6.659	-3.792			
3250.0	9.613	5.908	-3.705			
3300.0	9.700	5.157	-4.543			
3350.0	10.539	4.405	-6.134			
3400.0	10.729	3.674	-7.055			



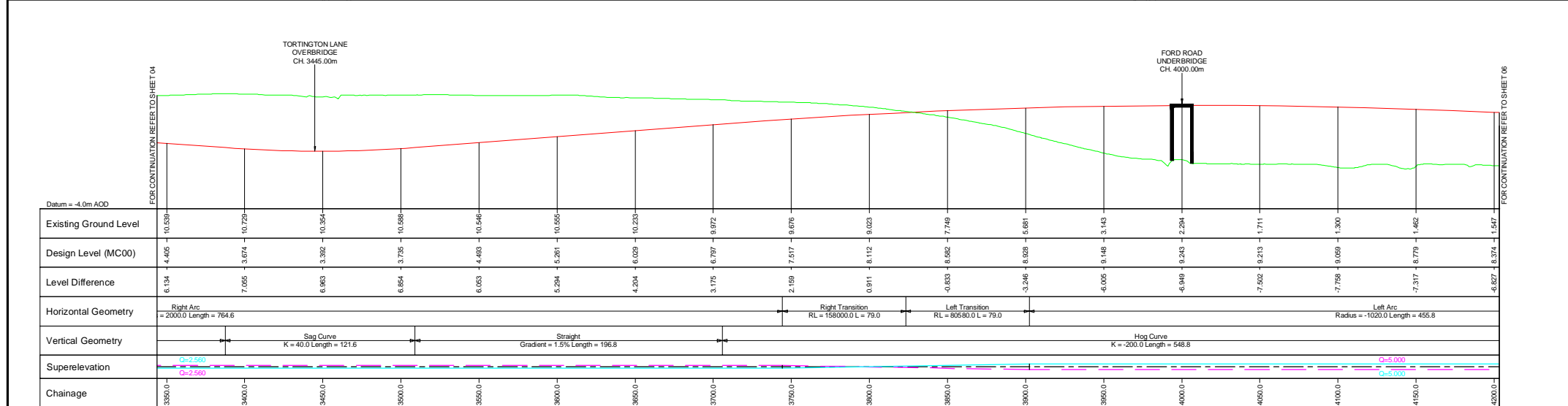
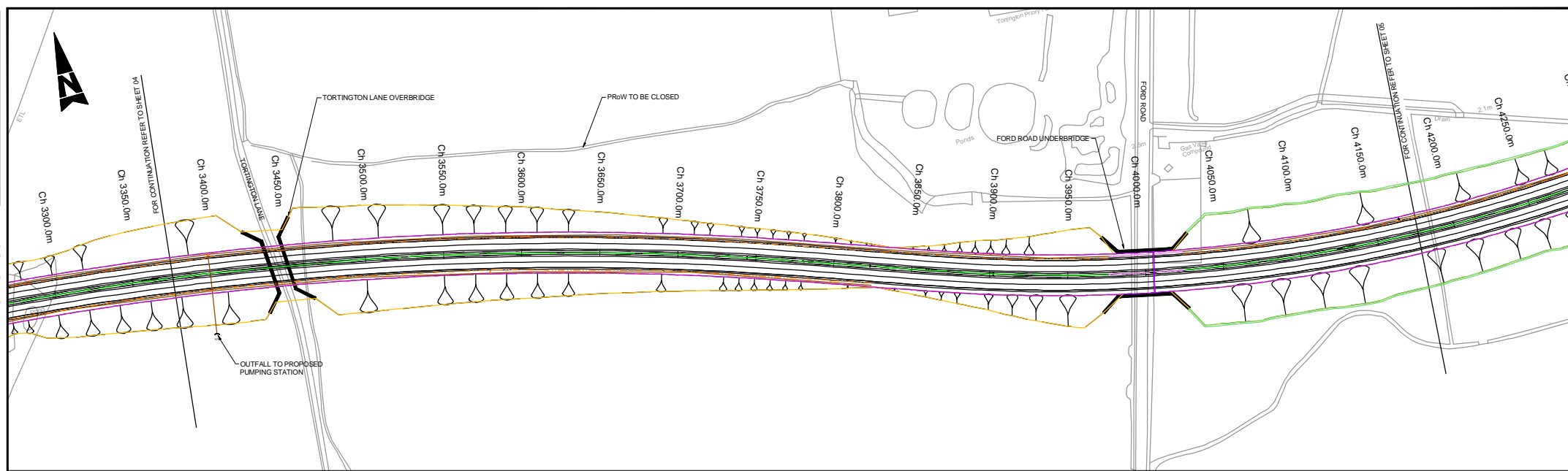
- NOTES:**
- FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0500.
- KEY:**
- MANHOLE
 - SOAKAWAY
 - GULLY
 - CATCHPIT
 - OUTLET
 - HEADWALL
 - PETROL INTERCEPTOR
 - FLOW DIRECTION
 - DRAINAGE CARRIER
 - SEWER
 - FILTER DRAIN
 - FILTER DRAIN
 - FILTER DRAIN ON BRIDGE DECK
 - CATEGORY 3 DEFECT
 - CATEGORY 4 DEFECT
 - CATEGORY 5 DEFECT
 - ATTENUATION POND
 - DRAINAGE DITCH

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION			
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).			
Construction			
Maintenance / Cleaning			
Use			
Decommissioning / Demolition			
Rev	Date	Description	By
P01.1		First Issue	

Drawing Status: WORK IN PROGRESS	Subsidiary: S0	Project Title: REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS
		Drawing Title: DRAINAGE STRATEGY PROPOSALS OPTION 5A SHEET 4 OF 8
Westbrook Mills Borough Road Godalming Surrey GU7 2AZ Tel: +44 (0)1483 528400 Fax: +44 (0)1483 528989 www.wsp-pb.co.uk		Scale: 1:1250
Copyright © WSP Group (2016)		Original Size: A1
		Project Ref No: 3514447G
Drawing Number: HE551523 - WSP - HDG - A27AR - DR - D - 0604		Revision: P01.1

DO NOT SCALE

Millimetres
0 10 100



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Scale 1:1250

NOTES:
1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0605.

- KEY:**
- MANHOLE
 - SOAKAWAY
 - GULLY
 - CATCHPIT
 - OUTLET
 - HEADWALL
 - PETROL INTERCEPTOR
 - FLOW DIRECTION
 - DRAINAGE CARRIER
 - SEWER
 - FILTER DRAIN
 - FILTER DRAIN
 - FILTER DRAIN ON BRIDGE DECK
 - CATEGORY 3 DEFECT
 - CATEGORY 4 DEFECT
 - CATEGORY 5 DEFECT
 - ATTENUATION POND
 - DRAINAGE DITCH

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION			
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).			
Construction			
Maintenance / Cleaning			
Use			
Decommissioning / Demolition			
P01.1	...	First Issue	...
Rev	Date	Description	By / Ctd / App'd

Drawing Status: **WORK IN PROGRESS**

Subsidiary: **S0**

Project Title: **REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS**

Client: **highways england**

Westbrook Mills
Borough Road
Godalming
Surrey
GU7 2AZ
Tel: +44 (0)1483 528400
Fax: +44 (0)1483 528989
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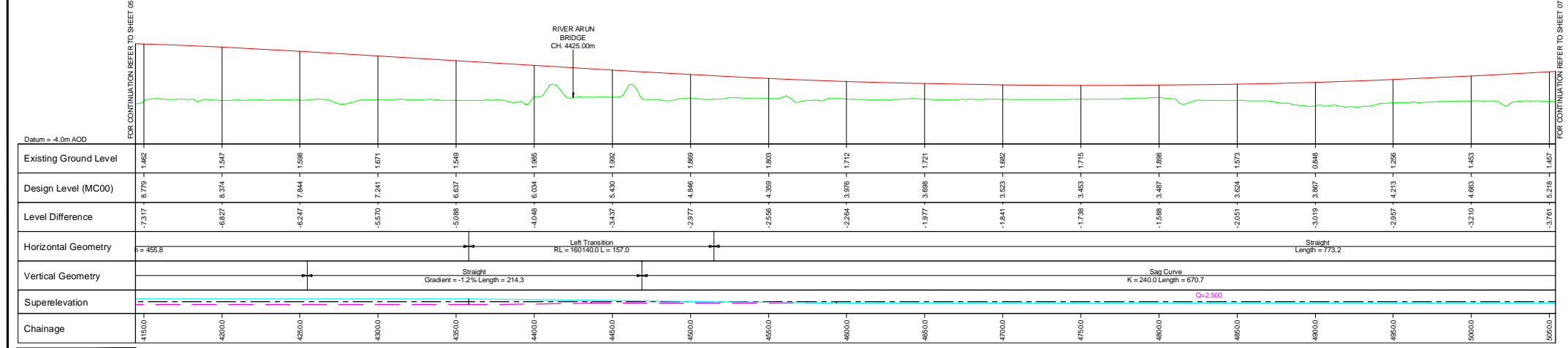
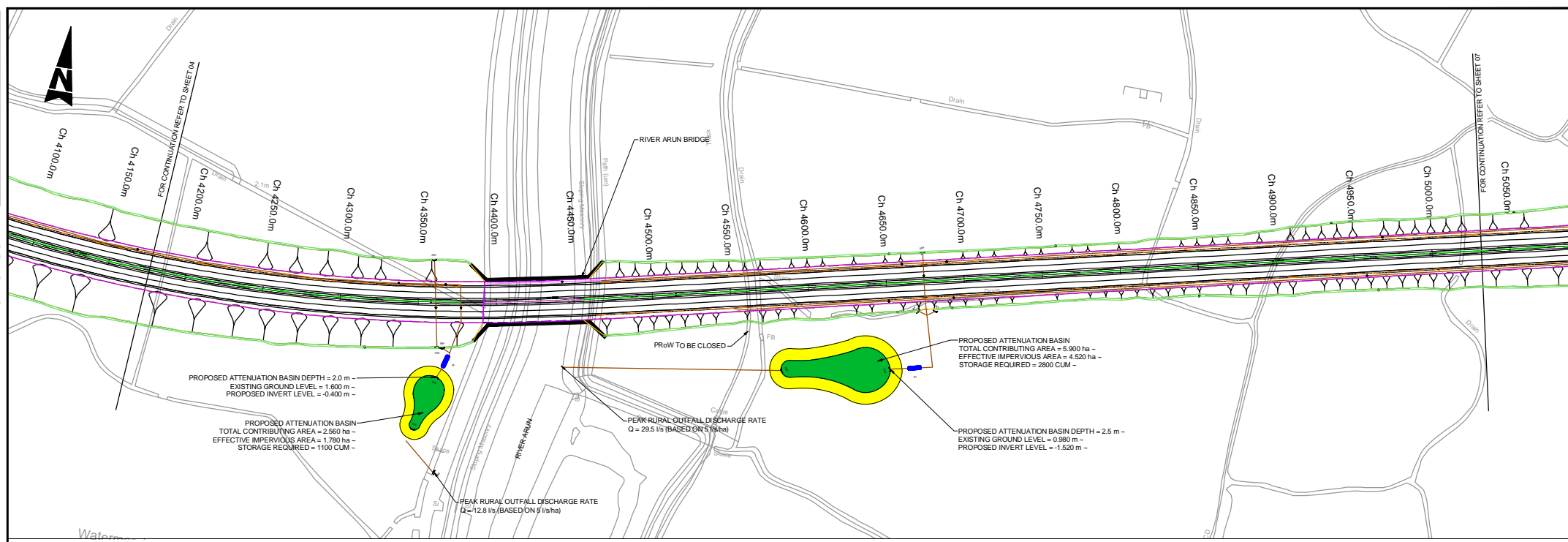
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REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS			
Drawing Title: DRAINAGE STRATEGY PROPOSALS OPTION 5A SHEET 5 OF 8			
Scale: 1:1250	Drawn: ...	Checked: ...	Approved: ...
Original Size: A1	Date: ...	Date: ...	Date: ...
Drawing Number: HE551523 - WSP - HDG - A27AR - DR - D - 0605	Project: ...	Volume: ...	Project Ref. No: 3514447G
Location: ...	Type: ...	Date: ...	Revision: P01.1

DO NOT SCALE

Millimetres
100
10
0



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Scale 1:1250

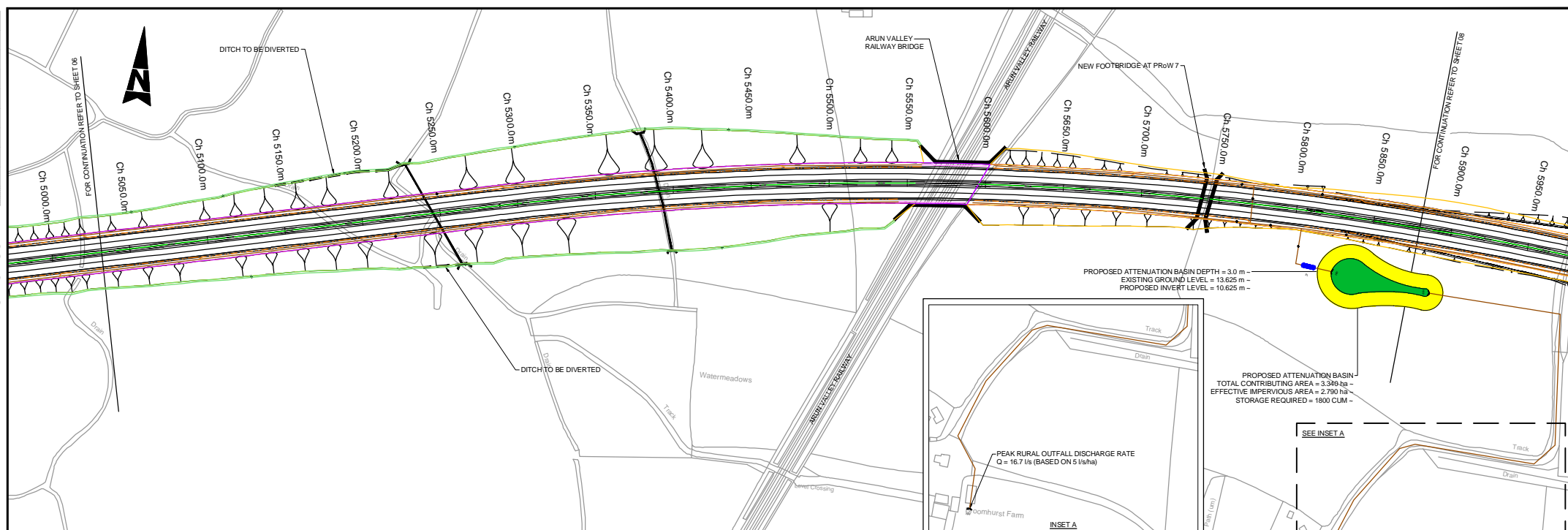
- NOTES:**
- FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0500.
- KEY:**
- MANHOLE
 - SOAKAWAY
 - GULLY
 - CATCHPIT
 - OUTLET
 - HEADWALL
 - PETROL INTERCEPTOR
 - FLOW DIRECTION
 - DRAINAGE CARRIER
 - SEWER
 - FILTER DRAIN
 - FILTER DRAIN
 - FILTER DRAIN ON BRIDGE DECK
 - CATEGORY 3 DEFECT
 - CATEGORY 4 DEFECT
 - CATEGORY 5 DEFECT
 - ATTENUATION POND
 - DRAINAGE DITCH

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION			
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).			
Construction			
Maintenance / Cleaning			
Use			
Decommissioning / Demolition			
Rev	Date	Description	By
P01.1		First Issue	

Drawing Status	WORK IN PROGRESS	Subsidiary	S0	Project Title	REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS
 Westbrook Mills Borough Road Godalming Surrey GU7 2AZ Tel: +44 (0)1483 528400 Fax: +44 (0)1483 528989 www.wsp-pb.co.uk		Drawing Title DRAINAGE STRATEGY OPTION 5A SHEET 6 OF 8		Scale	1:1250
		Client	HE55123 - WSP - HDG - A27AR - DR - D - 0606	Original Scale	A1
Copyright © WSP Group (2016)		Project Number	HE55123 - WSP - HDG - A27AR - DR - D - 0606	Drawn	Checked
		Project Ref No.	3514447G	Approved	Authorised
		Revision	P01.1	Date	Date

DO NOT SCALE

Millimetres
0 10 100



PROPOSED ATTENUATION BASIN DEPTH = 3.0 m -
EXISTING GROUND LEVEL = 13.625 m -
PROPOSED INVERT LEVEL = 10.625 m -

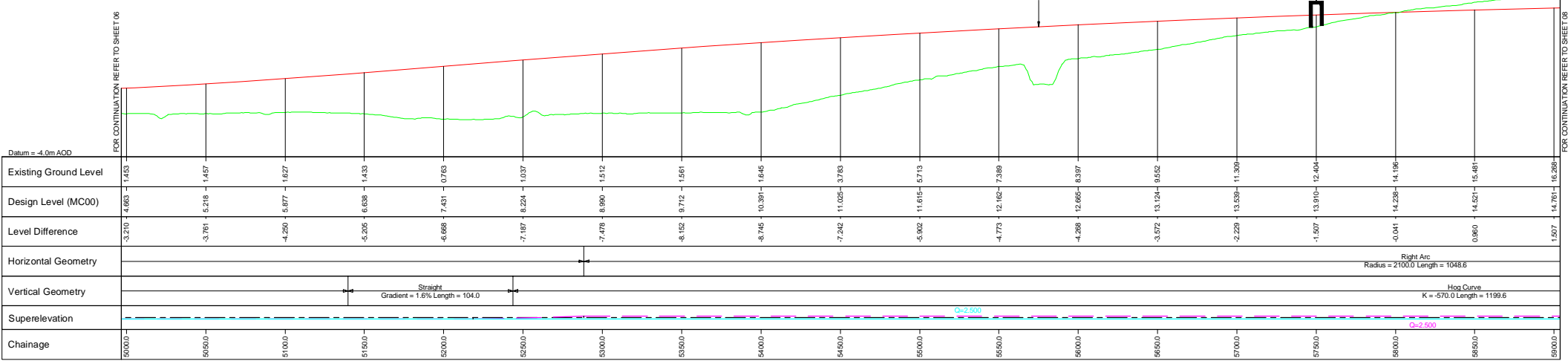
PROPOSED ATTENUATION BASIN
TOTAL CONTRIBUTING AREA = 3.300 ha -
EFFECTIVE IMPERVIOUS AREA = 2.790 ha -
STORAGE REQUIRED = 1800 CUM -

PEAK RURAL OUTFALL DISCHARGE RATE
Q = 16.7 l/s (BASED ON 5 l/s/ha)

SEE INSET A

ARUN VALLEY RAILWAY
CH. 5575.00m

NEW FOOTBRIDGE
AT PROW 7
CH. 5750.00m



NOTES:
1. FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0607.

- KEY:
- MANHOLE
 - SOAKAWAY
 - GULLY
 - CATCHPIT
 - OUTLET
 - HEADWALL
 - PETROL INTERCEPTOR
 - FLOW DIRECTION
 - DRAINAGE CARRIER
 - SEWER
 - FILTER DRAIN
 - FILTER DRAIN
 - FILTER DRAIN ON BRIDGE DECK
 - CATEGORY 3 DEFECT
 - CATEGORY 4 DEFECT
 - CATEGORY 5 DEFECT
 - ATTENUATION POND
 - DRAINAGE DITCH



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SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction	Maintenance / Cleaning	Use	Decommissioning / Demolition

Rev	Date	Description	By	Chk'd	App'd
P01.1		First Issue			

Drawing Status: **WORK IN PROGRESS**

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Godalming
Surrey
GU7 2AZ
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Fax: +44 (0)1483 528989
www.wsp-eb.co.uk

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**highways
england**

Project Title: **REGIONAL INVESTMENT PROGRAMME
A27 ARUNDEL BYPASS**

Drawing Title: **DRAINAGE STRATEGY
OPTION 5A
SHEET 7 OF 8**

Scale: 1:1250

Original Size: A1

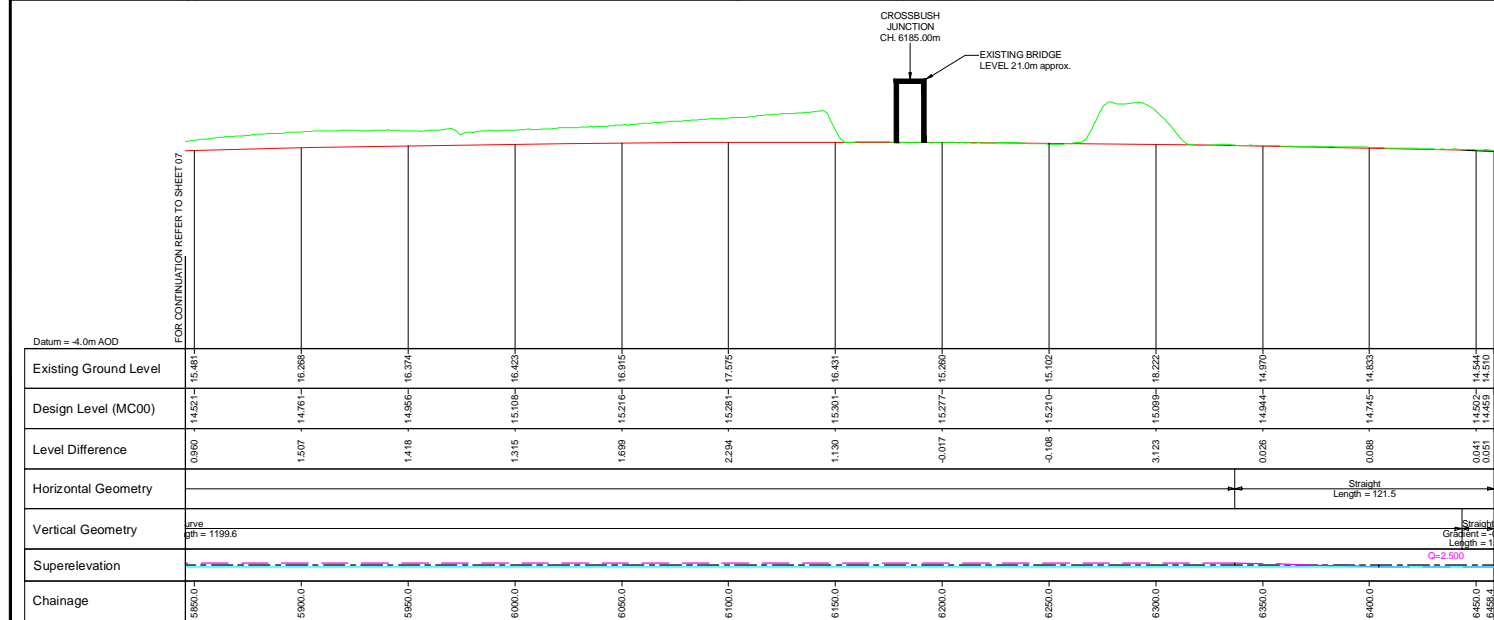
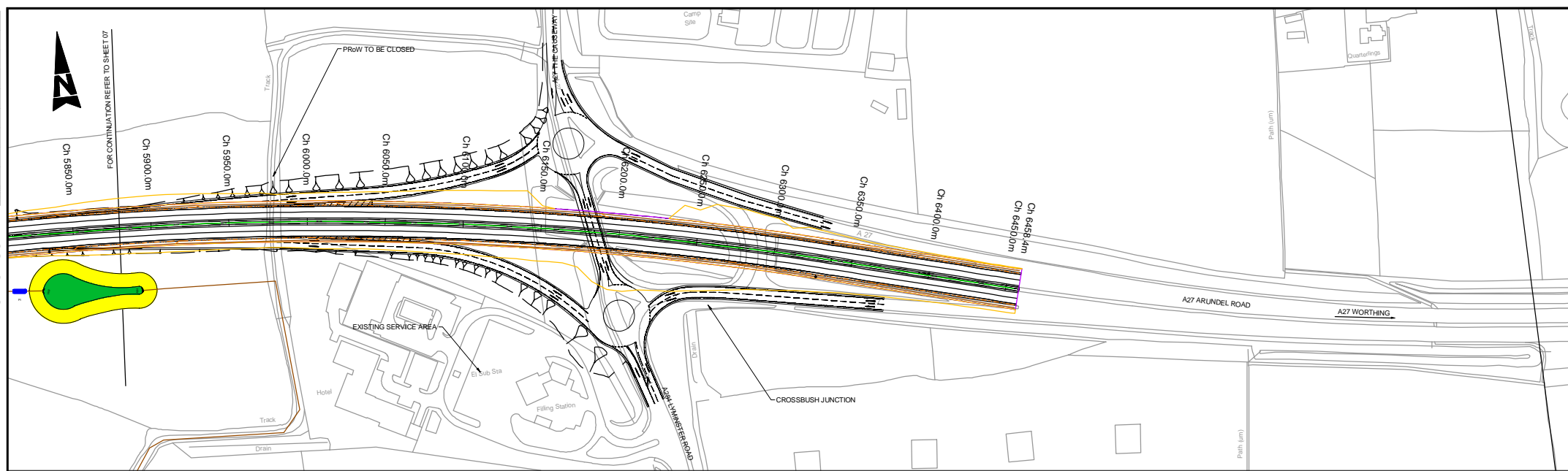
Project Ref No: 3514447G

Project: HE55123 - WSP - HDG - A27AR - DR - D - 0607

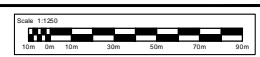
Revision: P01.1

DO NOT SCALE

Millimetres
0 10 100



- NOTES:**
- FOR KEY PLAN REFER TO DRG. NO. HE55123-WSP-HGN-A27AR-DR-D-0600.
- KEY:**
- MANHOLE
 - SOAKAWAY
 - GULLY
 - CATCHPIT
 - OUTLET
 - HEADWALL
 - PETROL INTERCEPTOR
 - FLOW DIRECTION
 - DRAINAGE CARRIER
 - SEWER
 - FILTER DRAIN
 - FILTER DRAIN
 - FILTER DRAIN ON BRIDGE DECK
 - CATEGORY 3 DEFECT
 - CATEGORY 4 DEFECT
 - CATEGORY 5 DEFECT
 - ATTENUATION POND
 - DRAINAGE DITCH



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SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).	
Construction	
Maintenance / Cleaning	
Use	
Decommissioning / Demolition	

Rev	Date	Description	By	Chk'd	App'd
P01.1		First Issue			

WORK IN PROGRESS

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Borough Road
Godalming
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GU7 2AZ
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Fax: +44 (0)1483 528989
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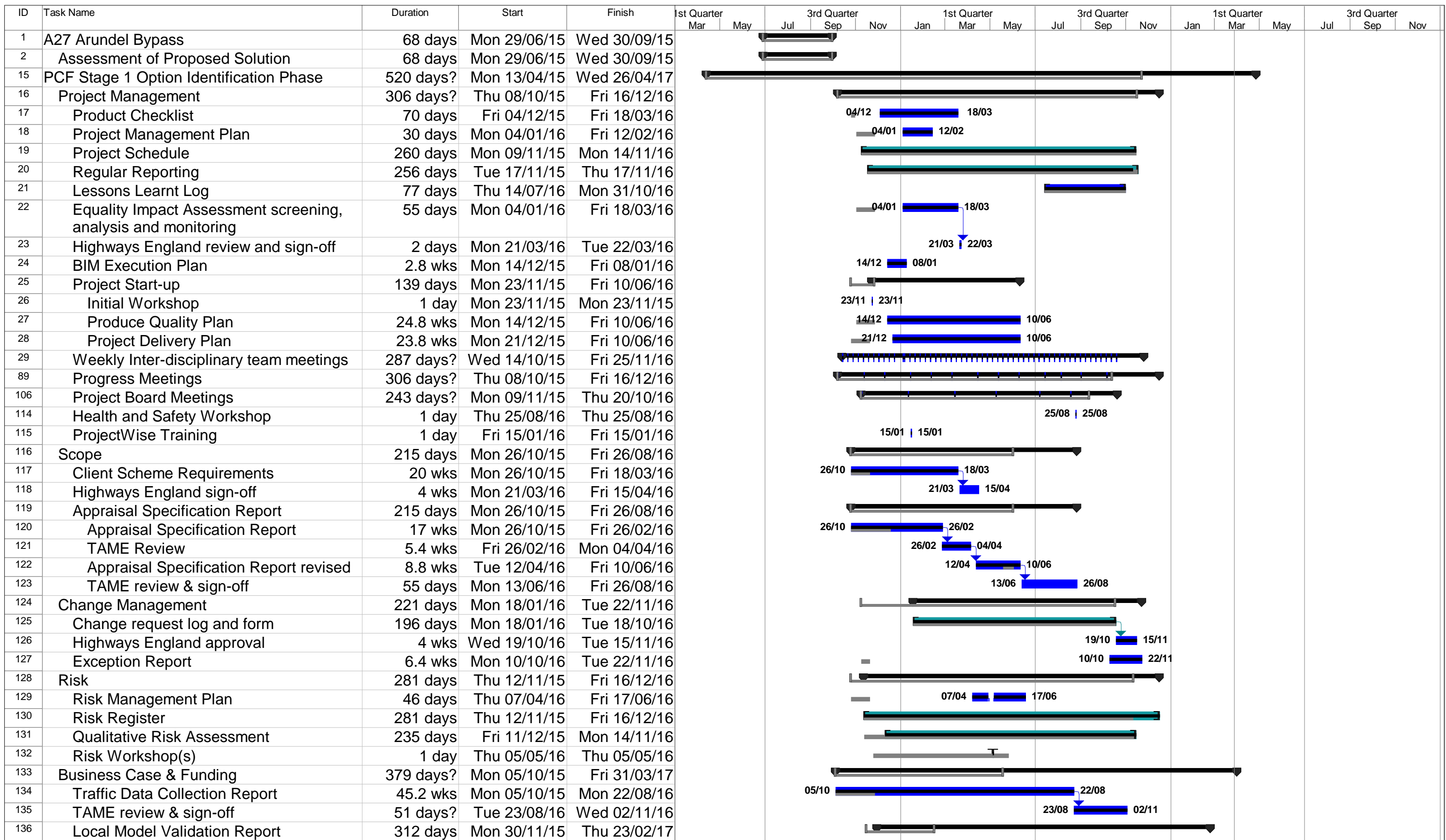
REGIONAL INVESTMENT PROGRAMME A27 ARUNDEL BYPASS	
Drawing Title DRAINAGE STRATEGY OPTION 5A SHEET 8 OF 8	
Scale 1:1250	Drawn ---
Original Size A1	Checked ---
Project HE55123 - WSP - HDG - A27AR - DR - D - 0608	Approved ---
Project Ref No. 3514447G	Authorised ---
Revision P01.1	Date ---

Appendix K

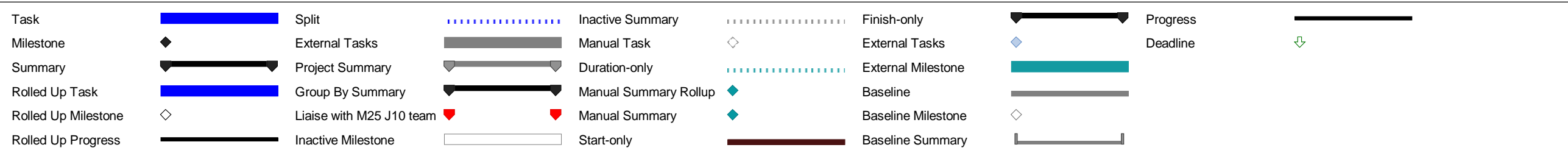
PROGRAMME

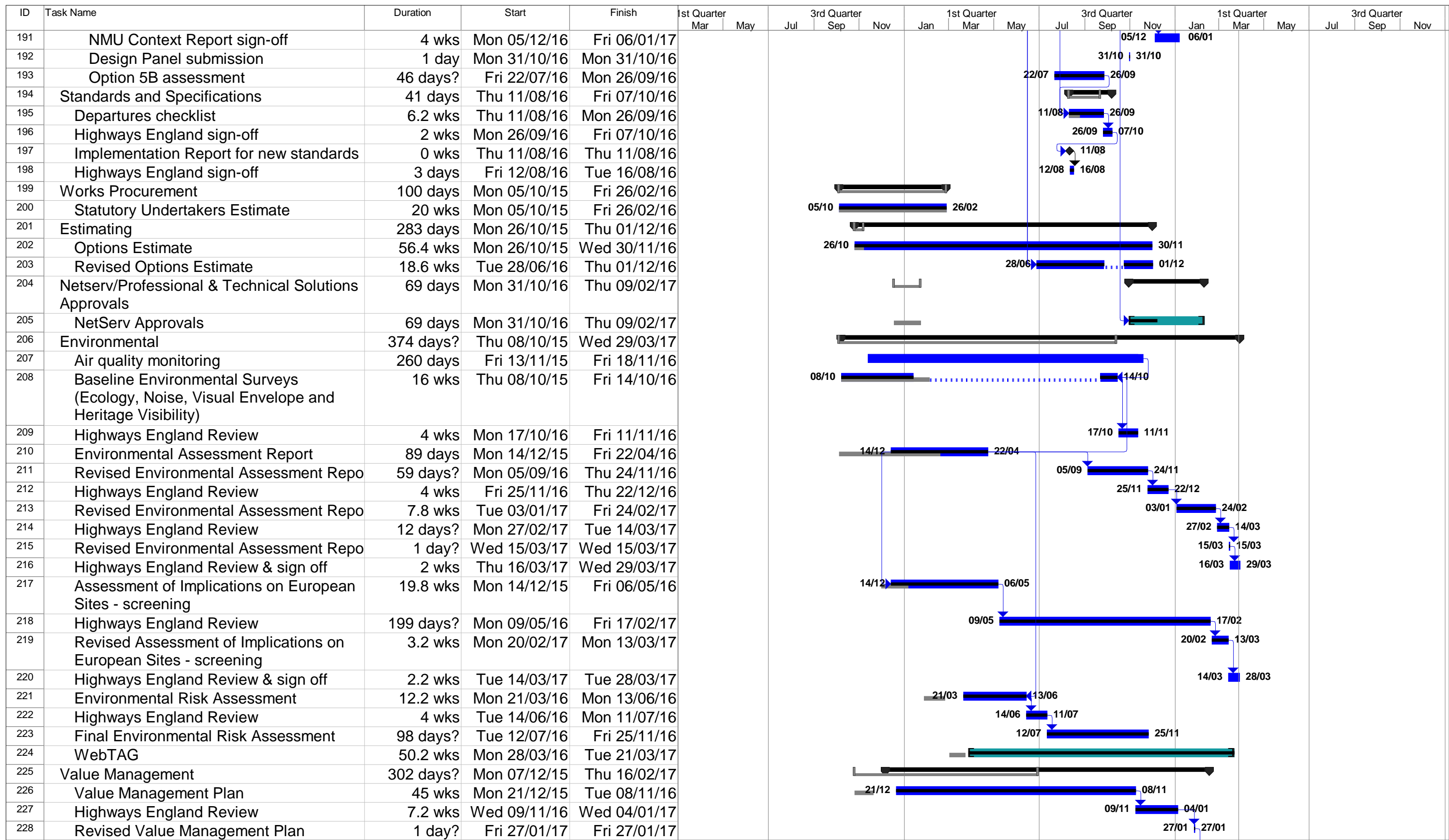
APPENDIX K-1

PROGRAMME



Project: HE551523_WSP-PB_A27A_PC
Date: Tue 28/03/17





Project: HE551523_WSP-PB_A27A_PC
Date: Tue 28/03/17

Task		Split		Inactive Summary		Finish-only		Progress	
Milestone		External Tasks		Manual Task		External Tasks		Deadline	
Summary		Project Summary		Duration-only		External Milestone		Baseline	
Rolled Up Task		Group By Summary		Manual Summary Rollup		Baseline Milestone		Baseline Summary	
Rolled Up Milestone		Liaise with M25 J10 team		Manual Summary		Baseline Milestone		Baseline Summary	
Rolled Up Progress		Inactive Milestone		Start-only		Baseline Summary			

ID	Task Name	Duration	Start	Finish	1st Quarter		3rd Quarter			1st Quarter			3rd Quarter			1st Quarter			3rd Quarter		
					Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov
325	Preferred Route Announcement	6 wks	Thu 09/11/17	Wed 20/12/17																	
326	PCF Stage 2 Stage Gate Review	2 wks	Thu 21/12/17	Mon 08/01/18																	
327	PCF Stage 3 Preliminary Design	175 days	Tue 09/01/18	Mon 10/09/18																	
328	Ongoing Stakeholder liaison	12 wks	Mon 26/03/18	Fri 15/06/18																	
329	Undertake Survey verifications (Topographical, Geotechnical, Environmental, Utilities)	12 wks	Tue 09/01/18	Mon 02/04/18																	
330	Preliminary design	12 wks	Tue 20/03/18	Mon 11/06/18																	
331	Preparation for Pre Application Consultation Report	8 wks	Tue 17/04/18	Mon 11/06/18																	
332	Environmental studies and EIA	12 wks	Tue 29/05/18	Mon 20/08/18																	
333	Finalisation of documents for DCO submission	10 wks	Tue 29/05/18	Mon 06/08/18																	
334	HA Governance	4 wks	Tue 07/08/18	Mon 03/09/18																	
335	PCF Stage 3 Stage Gate Review	1 wk	Tue 04/09/18	Mon 10/09/18																	
336	PCF Stage 4 Statutory procedures and powers	360 days	Tue 11/09/18	Mon 27/01/20																	
337	DCO Process	50 wks	Tue 11/09/18	Mon 26/08/19																	
338	SoS Decision	10 wks	Tue 27/08/19	Mon 04/11/19																	
339	Make Order	12 wks	Tue 05/11/19	Mon 27/01/20																	
340	PCF Stage 5 Construction Preparation	130 days	Tue 05/11/19	Mon 04/05/20																	
341	Detailed Design	26 wks	Tue 05/11/19	Mon 04/05/20																	
342	HA Governance	6 wks	Tue 24/03/20	Mon 04/05/20																	
343	PCF Stage 6 Construction, Commissioning and Handover	500 days	Tue 05/05/20	Mon 04/04/22																	
344	Construction	100 wks	Tue 05/05/20	Mon 04/04/22																	
345	Open for Traffic	0 days	Mon 04/04/22	Mon 04/04/22																	
346	PCF Stage 7 Close-out	260 days	Tue 05/04/22	Mon 03/04/23																	
347	Handover and Close-out	52 wks	Tue 05/04/22	Mon 03/04/23																	

Project: HE551523_WSP-PB_A27A_PC
Date: Tue 28/03/17

Task		Split		Inactive Summary		Finish-only		Progress	
Milestone		External Tasks		Manual Task		External Tasks		Deadline	
Summary		Project Summary		Duration-only		External Milestone			
Rolled Up Task		Group By Summary		Manual Summary Rollup		Baseline			
Rolled Up Milestone		Liaise with M25 J10 team		Manual Summary		Baseline Milestone			
Rolled Up Progress		Inactive Milestone		Start-only		Baseline Summary			

Jan	1st Quarter		Jul	3rd Quarter		Jan	1st Quarter		Jul	3rd Quarter		Jan	1st Quarter		Jul	3rd Quarter		Jan	1st Quarter		Jul	3rd Quarter		Jan	1st Quarter		
Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar		

Project: HE551523_WSP-PB_A27A_PC
Date: Tue 28/03/17

Task		Split		Inactive Summary		Finish-only		Progress	
Milestone		External Tasks		Manual Task		External Tasks		Deadline	
Summary		Project Summary		Duration-only		External Milestone			
Rolled Up Task		Group By Summary		Manual Summary Rollup		Baseline			
Rolled Up Milestone		Liaise with M25 J10 team		Manual Summary		Baseline Milestone			
Rolled Up Progress		Inactive Milestone		Start-only		Baseline Summary			

Jan	1st Quarter		Jul	3rd Quarter		Jan	1st Quarter		Jul	3rd Quarter		Jan	1st Quarter		Jul	3rd Quarter		Jan	1st Quarter		Jul	3rd Quarter		Jan	1st Quarter		Jul	3rd Quarter		Jan	1st Quarter	
Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	

Project: HE551523_WSP-PB_A27A_PC
Date: Tue 28/03/17

Task		Split		Inactive Summary		Finish-only		Progress	
Milestone		External Tasks		Manual Task		External Tasks		Deadline	
Summary		Project Summary		Duration-only		External Milestone			
Rolled Up Task		Group By Summary		Manual Summary Rollup		Baseline			
Rolled Up Milestone		Liaise with M25 J10 team		Manual Summary		Baseline Milestone			
Rolled Up Progress		Inactive Milestone		Start-only		Baseline Summary			

Jan	1st Quarter		Jul	3rd Quarter		Jan	1st Quarter		Jul	3rd Quarter		Jan	1st Quarter		Jul	3rd Quarter		Jan	1st Quarter		Jul	3rd Quarter		Jan	1st Quarter		Jul	3rd Quarter		Jan	1st Quarter	
Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	

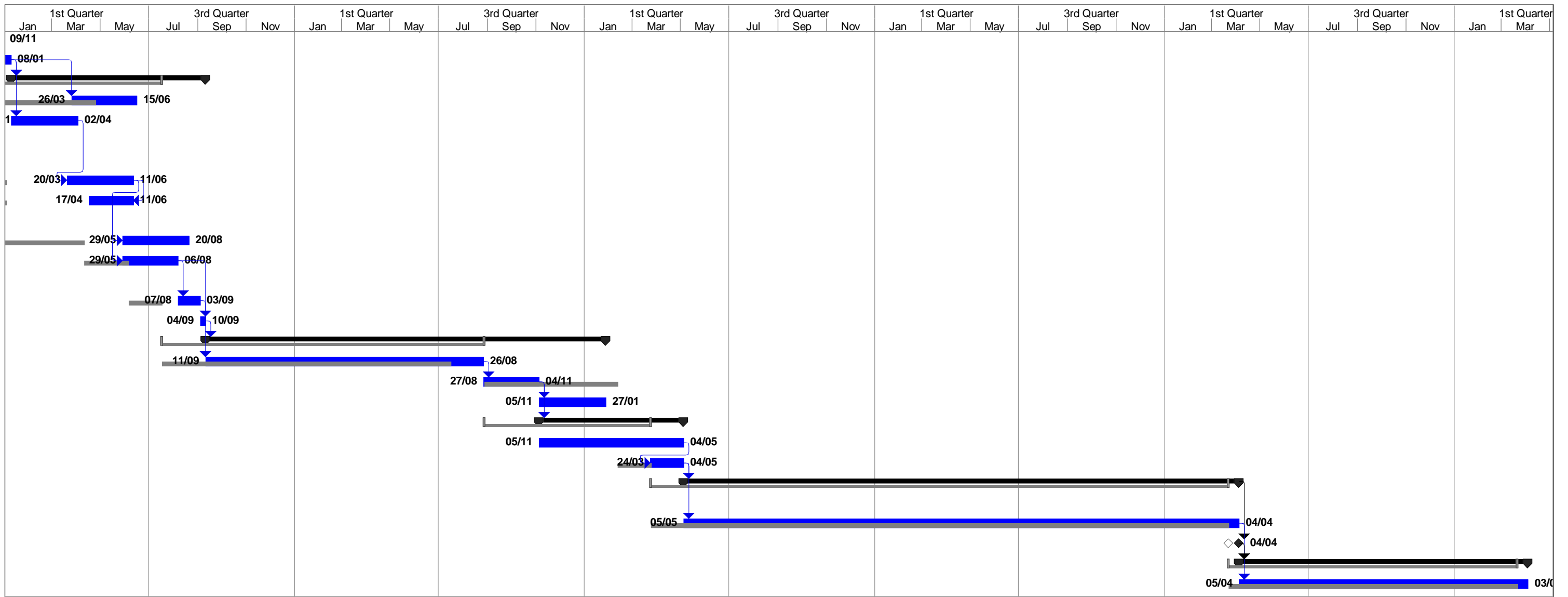
Project: HE551523_WSP-PB_A27A_PC
Date: Tue 28/03/17

Task		Split		Inactive Summary		Finish-only		Progress	
Milestone		External Tasks		Manual Task		External Tasks		Deadline	
Summary		Project Summary		Duration-only		External Milestone			
Rolled Up Task		Group By Summary		Manual Summary Rollup		Baseline			
Rolled Up Milestone		Liaise with M25 J10 team		Manual Summary		Baseline Milestone			
Rolled Up Progress		Inactive Milestone		Start-only		Baseline Summary			

1st Quarter			3rd Quarter			1st Quarter			3rd Quarter			1st Quarter			3rd Quarter			1st Quarter			3rd Quarter			1st Quarter							
Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar

Project: HE551523_WSP-PB_A27A_PC
Date: Tue 28/03/17

Task		Split		Inactive Summary		Finish-only		Progress	
Milestone		External Tasks		Manual Task		External Tasks		Deadline	
Summary		Project Summary		Duration-only		External Milestone			
Rolled Up Task		Group By Summary		Manual Summary Rollup		Baseline			
Rolled Up Milestone		Liaise with M25 J10 team		Manual Summary		Baseline Milestone			
Rolled Up Progress		Inactive Milestone		Start-only		Baseline Summary			



Project: HE551523_WSP-PB_A27A_PC
Date: Tue 28/03/17

Task		Split		Inactive Summary		Finish-only		Progress	
Milestone		External Tasks		Manual Task		External Tasks		Deadline	
Summary		Project Summary		Duration-only		External Milestone			
Rolled Up Task		Group By Summary		Manual Summary Rollup		Baseline			
Rolled Up Milestone		Liaise with M25 J10 team		Manual Summary		Baseline Milestone			
Rolled Up Progress		Inactive Milestone		Start-only		Baseline Summary			

Appendix L

COST ESTIMATE AND ECONOMIC ASSESSMENT

APPENDIX L-1

COST ESTIMATE

ECONOMICS INFORMATION FOR THE WHOLE PACKAGE

OPTION 5B

PROJECT NAME:	A27 Arundel Bypass
PROJECT STAGE:	1. Options - Options Identification
PROJECT SCOPE:	0

IF YOU HAVE ANY QUESTIONS REGARDING THE INFORMATION PROVIDED PLEASE CONTACT CommercialServicesDivision@highwaysengland.co.uk

REBASED 2010 CALENDAR YEAR PROFILES FOR ECONOMIC CALCULATIONS - ALL COSTS ARE IN THE FACTOR COST UNIT OF ACCOUNT

The expenditure profiles are based upon cost estimates for each financial year prepared in 2014 Q1 prices and then inflated to outturn costs using HA projected construction related inflation. These costs have then been rebased to 2010 calendar year profiles for economic calculations, using the GDP-deflator series as published in the WebTAG Databook.

The costs exclude all recoverable VAT. All historic costs have been removed - previous years and an approximate of this years spend that occurs in the past.

RANGE ESTIMATES

Minimum (P10) £m	Most Likely £m	Maximum (P90) £m
259.65	330.33	889.62

	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	Total (Excl Hist)
PREPARATION EXPENDITURE PROFILE	£12,359	£28,823	£2,938,353	£4,658,918	£8,919,856	£0	£0	£0	£16,558,309
SUPERVISION EXPENDITURE PROFILE	£0	£0	£0	£0	£2,366	£1,030,054	£827,753	£34,904	£1,895,078
WORKS EXPENDITURE PROFILE	£0	£0	£0	£0	£3,894,554	£92,583,686	£106,362,351	£13,534,087	£216,374,678
LANDS EXPENDITURE PROFILE	£0	£0	£5,670,543	£0	£15,151,626	£0	£0	£0	£20,822,169
TOTAL EXPENDITURE FORECAST	£12,359	£28,823	£8,608,896	£4,658,918	£27,968,402	£93,613,740	£107,190,105	£13,568,991	£255,650,234

PREPARATION EXPENDITURE PROFILE	0%	0%	18%	28%	54%	0%	0%	0%	100%
SUPERVISION EXPENDITURE PROFILE	0%	0%	0%	0%	0%	54%	44%	2%	100%
WORKS EXPENDITURE PROFILE	0%	0%	0%	0%	2%	43%	49%	6%	100%
LANDS EXPENDITURE PROFILE	0%	0%	27%	0%	73%	0%	0%	0%	100%
TOTAL EXPENDITURE FORECAST (ALL COSTS INCLUDED)	0.0%	0.0%	3.4%	1.8%	10.9%	36.6%	41.9%	5.3%	100.0%

ECONOMICS INFORMATION FOR THE WHOLE PACKAGE**OPTION 0A**

PROJECT NAME:	A27 Arundel Bypass
PROJECT STAGE:	1. Options - Options Identification
PROJECT SCOPE:	
0	

IF YOU HAVE ANY QUESTIONS REGARDING THE INFORMATION PROVIDED PLEASE CONTACT CommercialServicesDivision@highwaysengland.co.uk

REBASED 2010 CALENDAR YEAR PROFILES FOR ECONOMIC CALCULATIONS - ALL COSTS ARE IN THE FACTOR COST UNIT OF ACCOUNT

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The costs exclude all recoverable VAT. All historic costs have been removed - previous years and an approximate of this years spend that occurs in the past.

RANGE ESTIMATES

Minimum (P10) £m	Most Likely £m	Maximum (P90) £m
27.92	39.22	73.91

	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	Total (Excl Hist)
PREPARATION EXPENDITURE PROFILE	£14,713	£25,529	£1,616,842	£747,897	£1,317,275	£0	£0	£3,722,256
SUPERVISION EXPENDITURE PROFILE	£0	£0	£0	£0	£0	£1,027,994	£21,642	£1,049,636
WORKS EXPENDITURE PROFILE	£0	£0	£0	£0	£601,621	£22,831,221	£876,783	£24,309,624
LANDS EXPENDITURE PROFILE	£0	£0	£0	£0	£927,250	£0	£0	£927,250
TOTAL EXPENDITURE FORECAST	£14,713	£25,529	£1,616,842	£747,897	£2,846,145	£23,859,215	£898,425	£30,008,766

PREPARATION EXPENDITURE PROFILE	0%	1%	43%	20%	35%	0%	0%	100%
SUPERVISION EXPENDITURE PROFILE	0%	0%	0%	0%	0%	98%	2%	100%
WORKS EXPENDITURE PROFILE	0%	0%	0%	0%	2%	94%	4%	100%
LANDS EXPENDITURE PROFILE	0%	0%	0%	0%	100%	0%	0%	100%
TOTAL EXPENDITURE FORECAST (ALL COSTS INCLUDED)	0.0%	0.1%	5.4%	2.5%	9.5%	79.5%	3.0%	100.0%

ECONOMICS INFORMATION FOR THE WHOLE PACKAGE**OPTION 1**

PROJECT NAME:	A27 Arundel Bypass
PROJECT STAGE:	1. Options - Options Identification
PROJECT SCOPE:	
0	

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The costs exclude all recoverable VAT. All historic costs have been removed - previous years and an approximate of this years spend that occurs in the past.

	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	Total (Excl His
PREPARATION EXPENDITURE PROFILE	£11,400	£26,586	£2,416,429	£2,087,811	£4,364,611	£0	£0	£8,906,837
SUPERVISION EXPENDITURE PROFILE	£0	£0	£0	£0	£4,374	£1,832,259	£855,612	£2,692,244
WORKS EXPENDITURE PROFILE	£0	£0	£0	£0	£1,815,679	£47,739,201	£37,550,090	£87,104,970
LANDS EXPENDITURE PROFILE	£0	£0	£581,351	£0	£4,510,432	£0	£0	£5,091,783
TOTAL EXPENDITURE FORECAST	£11,400	£26,586	£2,997,780	£2,087,811	£10,695,096	£49,571,459	£38,405,702	£103,795,834

PREPARATION EXPENDITURE PROFILE	0%	0%	27%	23%	49%	0%	0%	100%
SUPERVISION EXPENDITURE PROFILE	0%	0%	0%	0%	0%	68%	32%	100%
WORKS EXPENDITURE PROFILE	0%	0%	0%	0%	2%	55%	43%	100%
LANDS EXPENDITURE PROFILE	0%	0%	11%	0%	89%	0%	0%	100%
TOTAL EXPENDITURE FORECAST (ALL COSTS INCLUDED)	0.0%	0.0%	2.9%	2.0%	10.3%	47.8%	37.0%	100.0%

RANGE ESTIMATES

Minimum (P10) £m	Most Likely £m	Maximum (P90) £m
96.09	134.47	250.17

ECONOMICS INFORMATION FOR THE WHOLE PACKAGE**OPTION 3**

PROJECT NAME:	A27 Arundel Bypass
PROJECT STAGE:	1. Options - Options Identification
PROJECT SCOPE:	
0	

IF YOU HAVE ANY QUESTIONS REGARDING THE INFORMATION PROVIDED PLEASE CONTACT CommercialServicesDivision@highwaysengland.co.uk

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	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	Total (Excl Hist)
PREPARATION EXPENDITURE PROFILE	£11,517	£26,859	£3,187,076	£4,208,135	£7,497,732	£0	£0	£0	£14,931,319
SUPERVISION EXPENDITURE PROFILE	£0	£0	£0	£0	£5,590	£2,433,477	£2,035,988	£133,581	£4,608,636
WORKS EXPENDITURE PROFILE	£0	£0	£0	£0	£2,803,788	£67,717,063	£83,495,982	£16,283,346	£170,300,179
LANDS EXPENDITURE PROFILE	£0	£0	£0	£0	£10,714,771	£0	£0	£0	£10,714,771
TOTAL EXPENDITURE FORECAST	£11,517	£26,859	£3,187,076	£4,208,135	£21,021,882	£70,150,540	£85,531,969	£16,416,927	£200,554,906

PREPARATION EXPENDITURE PROFILE	0%	0%	21%	28%	50%	0%	0%	0%	100%
SUPERVISION EXPENDITURE PROFILE	0%	0%	0%	0%	0%	53%	44%	3%	100%
WORKS EXPENDITURE PROFILE	0%	0%	0%	0%	2%	40%	49%	10%	100%
LANDS EXPENDITURE PROFILE	0%	0%	0%	0%	100%	0%	0%	0%	100%
TOTAL EXPENDITURE FORECAST (ALL COSTS INCLUDED)	0.0%	0.0%	1.6%	2.1%	10.5%	35.0%	42.6%	8.2%	100.0%

RANGE ESTIMATES

Minimum (P10) £m	Most Likely £m	Maximum (P90) £m
207.54	260	853.18

ECONOMICS INFORMATION FOR THE WHOLE PACKAGE**OPTION 5A**

PROJECT NAME:	A27 Arundel Bypass
PROJECT STAGE:	1. Options - Options Identification
PROJECT SCOPE:	
0	

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REBASED 2010 CALENDAR YEAR PROFILES FOR ECONOMIC CALCULATIONS - ALL COSTS ARE IN THE FACTOR COST UNIT OF ACCOUNT

The expenditure profiles are based upon cost estimates for each financial year prepared in 2014 Q1 prices and then inflated to outturn costs using HA projected construction related inflation. These costs have then been rebased to 2010 calendar year profiles for economic calculations, using the GDP-deflator series as published in the WebTAG Databook.

The costs exclude all recoverable VAT. All historic costs have been removed - previous years and an approximate of this years spend that occurs in the past.

	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	Total (Excl His
PREPARATION EXPENDITURE PROFILE	£11,505	£26,832	£3,235,474	£4,228,855	£7,254,826	£0	£0	£14,757,493
SUPERVISION EXPENDITURE PROFILE	£0	£0	£0	£0	£6,353	£2,661,741	£1,242,956	£3,911,050
WORKS EXPENDITURE PROFILE	£0	£0	£0	£0	£3,551,109	£92,418,571	£69,973,857	£165,943,537
LANDS EXPENDITURE PROFILE	£0	£0	£0	£0	£8,501,683	£0	£0	£8,501,683
TOTAL EXPENDITURE FORECAST	£11,505	£26,832	£3,235,474	£4,228,855	£19,313,971	£95,080,312	£71,216,813	£193,113,763

PREPARATION EXPENDITURE PROFILE	0%	0%	22%	29%	49%	0%	0%	100%
SUPERVISION EXPENDITURE PROFILE	0%	0%	0%	0%	0%	68%	32%	100%
WORKS EXPENDITURE PROFILE	0%	0%	0%	0%	2%	56%	42%	100%
LANDS EXPENDITURE PROFILE	0%	0%	0%	0%	100%	0%	0%	100%
TOTAL EXPENDITURE FORECAST (ALL COSTS INCLUDED)	0.0%	0.0%	1.7%	2.2%	10.0%	49.2%	36.9%	100.0%

RANGE ESTIMATES

Minimum (P10) £m	Most Likely £m	Maximum (P90) £m
199.76	249.34	772.48

ECONOMICS INFORMATION FOR THE WHOLE PACKAGE**OPTION 5B**

PROJECT NAME:	A27 Arundel Bypass
PROJECT STAGE:	1. Options - Options Identification
PROJECT SCOPE:	0

IF YOU HAVE ANY QUESTIONS REGARDING THE INFORMATION PROVIDED PLEASE CONTACT CommercialServicesDivision@highwaysengland.co.uk

REBASED 2010 CALENDAR YEAR PROFILES FOR ECONOMIC CALCULATIONS - ALL COSTS ARE IN THE FACTOR COST UNIT OF ACCOUNT

The expenditure profiles are based upon cost estimates for each financial year prepared in 2014 Q1 prices and then inflated to outturn costs using HA projected construction related inflation. These costs have then been rebased to 2010 calendar year profiles for economic calculations, using the GDP-deflator series as published in the WebTAG Databook.

The costs exclude all recoverable VAT. All historic costs have been removed - previous years and an approximate of this years spend that occurs in the past.

RANGE ESTIMATES

Minimum (P10) £m	Most Likely £m	Maximum (P90) £m
259.65	330.33	889.62

	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	Total (Excl Hist)
PREPARATION EXPENDITURE PROFILE	£12,359	£28,823	£2,938,353	£4,658,918	£8,919,856	£0	£0	£0	£16,558,309
SUPERVISION EXPENDITURE PROFILE	£0	£0	£0	£0	£2,366	£1,030,054	£827,753	£34,904	£1,895,078
WORKS EXPENDITURE PROFILE	£0	£0	£0	£0	£3,894,554	£92,583,686	£106,362,351	£13,534,087	£216,374,678
LANDS EXPENDITURE PROFILE	£0	£0	£5,670,543	£0	£15,151,626	£0	£0	£0	£20,822,169
TOTAL EXPENDITURE FORECAST	£12,359	£28,823	£8,608,896	£4,658,918	£27,968,402	£93,613,740	£107,190,105	£13,568,991	£255,650,234

PREPARATION EXPENDITURE PROFILE	0%	0%	18%	28%	54%	0%	0%	0%	100%
SUPERVISION EXPENDITURE PROFILE	0%	0%	0%	0%	0%	54%	44%	2%	100%
WORKS EXPENDITURE PROFILE	0%	0%	0%	0%	2%	43%	49%	6%	100%
LANDS EXPENDITURE PROFILE	0%	0%	27%	0%	73%	0%	0%	0%	100%
TOTAL EXPENDITURE FORECAST (ALL COSTS INCLUDED)	0.0%	0.0%	3.4%	1.8%	10.9%	36.6%	41.9%	5.3%	100.0%

ECONOMICS INFORMATION FOR THE WHOLE PACKAGE**OPTION 0A**

PROJECT NAME:	A27 Arundel Bypass
PROJECT STAGE:	1. Options - Options Identification
PROJECT SCOPE:	
0	

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SUPERVISION EXPENDITURE PROFILE	£0	£0	£0	£0	£0	£1,027,994	£21,642	£1,049,636
WORKS EXPENDITURE PROFILE	£0	£0	£0	£0	£601,621	£22,831,221	£876,783	£24,309,624
LANDS EXPENDITURE PROFILE	£0	£0	£0	£0	£927,250	£0	£0	£927,250
TOTAL EXPENDITURE FORECAST	£14,713	£25,529	£1,616,842	£747,897	£2,846,145	£23,859,215	£898,425	£30,008,766

PREPARATION EXPENDITURE PROFILE	0%	1%	43%	20%	35%	0%	0%	100%
SUPERVISION EXPENDITURE PROFILE	0%	0%	0%	0%	0%	98%	2%	100%
WORKS EXPENDITURE PROFILE	0%	0%	0%	0%	2%	94%	4%	100%
LANDS EXPENDITURE PROFILE	0%	0%	0%	0%	100%	0%	0%	100%
TOTAL EXPENDITURE FORECAST (ALL COSTS INCLUDED)	0.0%	0.1%	5.4%	2.5%	9.5%	79.5%	3.0%	100.0%

RANGE ESTIMATES

Minimum (P10) £m	Most Likely £m	Maximum (P90) £m
27.92	39.22	73.91

ECONOMICS INFORMATION FOR THE WHOLE PACKAGE**OPTION 1**

PROJECT NAME:	A27 Arundel Bypass
PROJECT STAGE:	1. Options - Options Identification
PROJECT SCOPE:	
0	

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LANDS EXPENDITURE PROFILE	£0	£0	£581,351	£0	£4,510,432	£0	£0	£5,091,783
TOTAL EXPENDITURE FORECAST	£11,400	£26,586	£2,997,780	£2,087,811	£10,695,096	£49,571,459	£38,405,702	£103,795,834

PREPARATION EXPENDITURE PROFILE	0%	0%	27%	23%	49%	0%	0%	100%
SUPERVISION EXPENDITURE PROFILE	0%	0%	0%	0%	0%	68%	32%	100%
WORKS EXPENDITURE PROFILE	0%	0%	0%	0%	2%	55%	43%	100%
LANDS EXPENDITURE PROFILE	0%	0%	11%	0%	89%	0%	0%	100%
TOTAL EXPENDITURE FORECAST (ALL COSTS INCLUDED)	0.0%	0.0%	2.9%	2.0%	10.3%	47.8%	37.0%	100.0%

RANGE ESTIMATES

Minimum (P10) £m	Most Likely £m	Maximum (P90) £m
96.09	134.47	250.17

ECONOMICS INFORMATION FOR THE WHOLE PACKAGE**OPTION 3**

PROJECT NAME:	A27 Arundel Bypass
PROJECT STAGE:	1. Options - Options Identification
PROJECT SCOPE:	
0	

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SUPERVISION EXPENDITURE PROFILE	£0	£0	£0	£0	£5,590	£2,433,477	£2,035,988	£133,581	£4,608,636
WORKS EXPENDITURE PROFILE	£0	£0	£0	£0	£2,803,788	£67,717,063	£83,495,982	£16,283,346	£170,300,179
LANDS EXPENDITURE PROFILE	£0	£0	£0	£0	£10,714,771	£0	£0	£0	£10,714,771
TOTAL EXPENDITURE FORECAST	£11,517	£26,859	£3,187,076	£4,208,135	£21,021,882	£70,150,540	£85,531,969	£16,416,927	£200,554,906

PREPARATION EXPENDITURE PROFILE	0%	0%	21%	28%	50%	0%	0%	0%	100%
SUPERVISION EXPENDITURE PROFILE	0%	0%	0%	0%	0%	53%	44%	3%	100%
WORKS EXPENDITURE PROFILE	0%	0%	0%	0%	2%	40%	49%	10%	100%
LANDS EXPENDITURE PROFILE	0%	0%	0%	0%	100%	0%	0%	0%	100%
TOTAL EXPENDITURE FORECAST (ALL COSTS INCLUDED)	0.0%	0.0%	1.6%	2.1%	10.5%	35.0%	42.6%	8.2%	100.0%

RANGE ESTIMATES

Minimum (P10) £m	Most Likely £m	Maximum (P90) £m
207.54	260	853.18

ECONOMICS INFORMATION FOR THE WHOLE PACKAGE**OPTION 5A**

PROJECT NAME:	A27 Arundel Bypass
PROJECT STAGE:	1. Options - Options Identification
PROJECT SCOPE:	
0	

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SUPERVISION EXPENDITURE PROFILE	£0	£0	£0	£0	£6,353	£2,661,741	£1,242,956	£3,911,050
WORKS EXPENDITURE PROFILE	£0	£0	£0	£0	£3,551,109	£92,418,571	£69,973,857	£165,943,537
LANDS EXPENDITURE PROFILE	£0	£0	£0	£0	£8,501,683	£0	£0	£8,501,683
TOTAL EXPENDITURE FORECAST	£11,505	£26,832	£3,235,474	£4,228,855	£19,313,971	£95,080,312	£71,216,813	£193,113,763

PREPARATION EXPENDITURE PROFILE	0%	0%	22%	29%	49%	0%	0%	100%
SUPERVISION EXPENDITURE PROFILE	0%	0%	0%	0%	0%	68%	32%	100%
WORKS EXPENDITURE PROFILE	0%	0%	0%	0%	2%	56%	42%	100%
LANDS EXPENDITURE PROFILE	0%	0%	0%	0%	100%	0%	0%	100%
TOTAL EXPENDITURE FORECAST (ALL COSTS INCLUDED)	0.0%	0.0%	1.7%	2.2%	10.0%	49.2%	36.9%	100.0%

RANGE ESTIMATES

Minimum (P10) £m	Most Likely £m	Maximum (P90) £m
199.76	249.34	772.48

APPENDIX L-2

ECONOMIC ASSESSMENT TABLES

Appendix L-II

Table L-IIA: Public Accounts Table - Option 0A

Public Accounts (PA) Table - Arundel Option 0A

	ALL MODES TOTAL	ROAD INFRASTRUCTURE	BUS and COACH	RAIL	OTHER
Local Government Funding					
Revenue	0	0			0
Operating Costs	0	0			0
Investment Costs	0	0			0
Developer and Other Contributions	0			0	0
Grant/Subsidy Payments	0			0	0
NET IMPACT	0 (7)			0	0
Central Government Funding- Transport					
Revenue	0	0			0
Operating costs	0	0			0
Investment Costs	25573	25573			0
Developer and Other Contributions	0			0	0
Grant/Subsidy Payments	0			0	0
NET IMPACT	25573 (8)	25573		0	0
Central Government Funding- Non-Transport					
Indirect Tax Revenues	3047 (9)		3047	0	0
TOTALS					
Broad Transport Budget	25573 (10) = (7) + (8)				
Wider Public Finances	3047 (11) = (9)				

Notes: Costs appear as positive numbers, while revenues and 'Developer and Other Contributions' appear as negative numbers.
All entries are discounted present values in 2010 prices and values.

Table L-IIB: Public Accounts Table Option 1

Public Accounts (PA) Table - Arundel Option 1

	ALL MODES TOTAL	ROAD INFRASTRUCTURE	BUS and COACH	RAIL	OTHER
Local Government Funding					
Revenue	0	0			0
Operating Costs	0	0			0
Investment Costs	0	0			0
Developer and Other Contributions	0			0	0
Grant/Subsidy Payments	0			0	0
NET IMPACT	0 (7)			0	0
Central Government Funding- Transport					
Revenue	0	0			0
Operating costs	0	0			0
Investment Costs	87190	87190			0
Developer and Other Contributions	0			0	0
Grant/Subsidy Payments	0			0	0
NET IMPACT	87190 (8)	87190		0	0
Central Government Funding- Non-Transport					
Indirect Tax Revenues	8129 (9)		8129	0	0
TOTALS					
Broad Transport Budget	87190 (10) = (7) + (8)				
Wider Public Finances	8129 (11) = (9)				

Notes: Costs appear as positive numbers, while revenues and 'Developer and Other Contributions' appear as negative numbers.
All entries are discounted present values in 2010 prices and values.

Table L-IIC: Public Accounts Table - Option 3

Public Accounts (PA) Table - Arundel Option 3

	ALL MODES TOTAL	ROAD INFRASTRUCTURE	BUS and COACH	RAIL	OTHER
Local Government Funding					
Revenue	0	0			0
Operating Costs	0	0			0
Investment Costs	0	0			0
Developer and Other Contributions	0			0	0
Grant/Subsidy Payments	0			0	0
NET IMPACT	0 (7)			0	0
Central Government Funding- Transport					
Revenue	0	0			0
Operating costs	0	0			0
Investment Costs	166997	166997			0
Developer and Other Contributions	0			0	0
Grant/Subsidy Payments	0			0	0
NET IMPACT	166997 (8)	166997		0	0
Central Government Funding- Non-Transport					
Indirect Tax Revenues	863 (9)		863	0	0
TOTALS					
Broad Transport Budget	166997 (10) = (7) + (8)				
Wider Public Finances	863 (11) = (9)				

Notes: Costs appear as positive numbers, while revenues and 'Developer and Other Contributions' appear as negative numbers.
All entries are discounted present values in 2010 prices and values.

Table L-IIID: Public Accounts Table - Option 5A

	ALL MODES	ROAD	BUS and COACH	RAIL	OTHER
Local Government Funding	TOTAL	INFRASTRUCTURE			
Revenue	0	0			0
Operating Costs	0	0			0
Investment Costs	0	0			0
Developer and Other Contributions	0	0		0	0
Grant/Subsidy Payments	0	0		0	0
NET IMPACT	0 (7)	0		0	0
Central Government Funding: Transport					
Revenue	0	0			0
Operating costs	0	0			0
Investment costs	162005	162005			0
Developer and Other Contributions	0	0		0	0
Grant/Subsidy Payments	0	0		0	0
NET IMPACT	162005 (8)	162005		0	0
Central Government Funding: Non-Transport					
Indirect Tax Revenues	5317 (9)	5317		0	0
TOTALS					
Broad Transport Budget	162005 (10) = (7) + (8)				
Wider Public Finances	5317 (11) = (9)				

Notes: Costs appear as positive numbers, while revenues and 'Developer and Other Contributions' appear as negative numbers.
All entries are discounted present values in 2010 prices and values.

Table L-IIIE: Public Accounts Table - Option 5B

	ALL MODES	ROAD	BUS and COACH	RAIL	OTHER
Local Government Funding	TOTAL	INFRASTRUCTURE			
Revenue	0	0			0
Operating Costs	0	0			0
Investment Costs	0	0			0
Developer and Other Contributions	0	0		0	0
Grant/Subsidy Payments	0	0		0	0
NET IMPACT	0 (7)	0		0	0
Central Government Funding: Transport					
Revenue	0	0			0
Operating costs	0	0			0
Investment costs	213756	213756			0
Developer and Other Contributions	0	0		0	0
Grant/Subsidy Payments	0	0		0	0
NET IMPACT	213756 (8)	213756		0	0
Central Government Funding: Non-Transport					
Indirect Tax Revenues	4417 (9)	4417		0	0
TOTALS					
Broad Transport Budget	213756 (10) = (7) + (8)				
Wider Public Finances	4417 (11) = (9)				

Notes: Costs appear as positive numbers, while revenues and 'Developer and Other Contributions' appear as negative numbers.
All entries are discounted present values in 2010 prices and values.

Table 14-8 to Table 14-12 present the Transport Economic Efficiency (TEE) Tables for each option.

Table L-IIF: Transport Economic Efficiency (TEE) Table - Option 0A

Economic Efficiency of the Transport System (TEE) - Arundel Option 0A

Non-business: Commuting		ALL MODES	ROAD	BUS and COACH	RAIL	OTHER
<i>User benefits</i>		TOTAL	Private Cars and LGVs	Passengers	Passengers	
Travel time		37819	37819	0	0	
Vehicle operating costs		3056	3056			
User charges		0	0	0	0	
During Construction & Maintenance		0	0	0	0	
COMMUTING		40875	40875	0	0	
Non-business: Other		ALL MODES	ROAD	BUS and COACH	RAIL	OTHER
<i>User benefits</i>		TOTAL	Private Cars and LGVs	Passengers	Passengers	
Travel time		19799	19799	0	0	
Vehicle operating costs		2557	2557			
User charges		0	0	0	0	
During Construction & Maintenance		0	0	0	0	
NET NON-BUSINESS BENEFITS: OTHER		22356	22356	0	0	
Business			Road (Personal)	Road (Freight)	Passengers	Freight
<i>User benefits</i>					Passengers	
Travel time		48610	30728	17882	0	0
Vehicle operating costs		4018	1312	2706		
User charges		0	0	0	0	0
During Construction & Maintenance		0	0	0	0	0
Subtotal		52828	32040	20588	0	0
<i>Private sector provider impacts</i>					Freight	Passengers
Revenue		0			0	0
Operating costs		0			0	0
Investment costs		0			0	0
Grant/subsidy		0			0	0
Subtotal		0			0	0
<i>Other business impacts</i>						
Developer contributions		0				
NET BUSINESS IMPACT		52828				
TOTAL						
Present Value of Transport Economic Efficiency Benefits (TEE)		115859				

Notes: Benefits appear as positive numbers, while costs appear as negative numbers.
All entries are discounted present values, in 2010 prices and values

Table L-IIG Transport Economic Efficiency (TEE) Table - Option 1

Economic Efficiency of the Transport System (TEE) - Arundel Option 1

Non-business: Commuting		ALL MODES	ROAD	BUS and COACH	RAIL	OTHER
<i>User benefits</i>		TOTAL	Private Cars and LGVs	Passengers	Passengers	
Travel time		88361	88361	0	0	
Vehicle operating costs		7343	7343			
User charges		0	0	0	0	
During Construction & Maintenance		0	0	0	0	
COMMUTING		95704	95704	0	0	
Non-business: Other		ALL MODES	ROAD	BUS and COACH	RAIL	OTHER
<i>User benefits</i>		TOTAL	Private Cars and LGVs	Passengers	Passengers	
Travel time		50495	50495	0	0	
Vehicle operating costs		7187	7187			
User charges		0	0	0	0	
During Construction & Maintenance		0	0	0	0	
NET NON-BUSINESS BENEFITS: OTHER		57682	57682	0	0	
Business			Road (Personal)	Road (Freight)	Passengers	Freight
<i>User benefits</i>					Passengers	
Travel time		118859	73413	43446	0	0
Vehicle operating costs		13030	3986	9044		
User charges		0	0	0	0	0
During Construction & Maintenance		0	0	0	0	0
Subtotal		129889	77399	52490	0	0
<i>Private sector provider impacts</i>					Freight	Passengers
Revenue		0			0	0
Operating costs		0			0	0
Investment costs		0			0	0
Grant/subsidy		0			0	0
Subtotal		0			0	0
<i>Other business impacts</i>						
Developer contributions		0				
NET BUSINESS IMPACT		129889				
TOTAL						
Present Value of Transport Economic Efficiency Benefits (TEE)		283275				

Notes: Benefits appear as positive numbers, while costs appear as negative numbers.
All entries are discounted present values, in 2010 prices and values

Table L-III: Transport Economic Efficiency (TEE) Table - Option 3

Economic Efficiency of the Transport System (TEE) - Arundel Option 3

Non-business: Commuting		ALL MODES	ROAD	BUS and COACH	RAIL	OTHER
<i>User benefits</i>		TOTAL	Private Cars and LGVs	Passengers	Passengers	
Travel time	89373	89373	89373	0	0	
Vehicle operating costs	1385	1385	1385			
User charges	0	0	0	0	0	
During Construction & Maintenance	0	0	0	0	0	
COMMUTING		90738	90738	0	0	
Non-business: Other		ALL MODES	ROAD	BUS and COACH	RAIL	OTHER
<i>User benefits</i>		TOTAL	Private Cars and LGVs	Passengers	Passengers	
Travel time	52881	52881	52881	0	0	
Vehicle operating costs	-2142	-2142	-2142			
User charges	0	0	0	0	0	
During Construction & Maintenance	0	0	0	0	0	
NET NON-BUSINESS BENEFITS: OTHER		50539	50539	0	0	
Business			Road (Personal)	Road (Freight)	Passengers	Freight
<i>User benefits</i>						
Travel time	128452	80235	48217	0	0	0
Vehicle operating costs	3417	1835	1582			
User charges	0	0	0	0	0	0
During Construction & Maintenance	0	0	0	0	0	0
Subtotal		131809	82070	49799	0	0
<i>Private sector provider impacts</i>					Freight	Passengers
Revenue	0				0	0
Operating costs	0				0	0
Investment costs	0				0	0
Grant/subsidy	0				0	0
Subtotal		0			0	0
<i>Other business impacts</i>						
Developer contributions	0					
NET BUSINESS IMPACT		131809				
TOTAL						
Present Value of Transport Economic Efficiency Benefits (TEE)		273146				

Notes: Benefits appear as positive numbers, while costs appear as negative numbers.
All entries are discounted present values, in 2010 prices and values

Table L-III: Transport Economic Efficiency (TEE) Table – Option 5A

Economic Efficiency of the Transport System (TEE) - Arundel Option 5A

Non-business: Commuting		ALL MODES	ROAD	BUS and COACH	RAIL	OTHER
<i>User benefits</i>		TOTAL	Private Cars and LGVs	Passengers	Passengers	
Travel time	113058	113058	113058	0	0	
Vehicle operating costs	4195	4195	4195			
User charges	0	0	0	0	0	
During Construction & Maintenance	0	0	0	0	0	
COMMUTING		117253	117253	0	0	
Non-business: Other		ALL MODES	ROAD	BUS and COACH	RAIL	OTHER
<i>User benefits</i>		TOTAL	Private Cars and LGVs	Passengers	Passengers	
Travel time	63745	203959	203959	0	0	
Vehicle operating costs	1806	6047	6047			
User charges	0	0	0	0	0	
During Construction & Maintenance	0	0	0	0	0	
NET NON-BUSINESS BENEFITS: OTHER		65641	21006	0	0	
Business			Road (Personal)	Road (Freight)	Passengers	Freight
<i>User benefits</i>						
Travel time	155990	98893	57297	0	0	0
Vehicle operating costs	11882	3861	8221			
User charges	0	0	0	0	0	0
During Construction & Maintenance	0	0	0	0	0	0
Subtotal		167872	102354	65518	0	0
<i>Private sector provider impacts</i>					Freight	Passengers
Revenue	0				0	0
Operating costs	0				0	0
Investment costs	0				0	0
Grant/subsidy	0				0	0
Subtotal		0			0	0
<i>Other business impacts</i>						
Developer contributions	0					
NET BUSINESS IMPACT		167872				
TOTAL						
Present Value of Transport Economic Efficiency Benefits (TEE)		350766				

Notes: Benefits appear as positive numbers, while costs appear as negative numbers.
All entries are discounted present values, in 2010 prices and values

Table L-IIG: Transport Economic Efficiency (TEE) Table - Option 5B

Economic Efficiency of the Transport System (TEE) - Arundel Option 5B

Non-business: Commuting		ALL MODES	ROAD	BUS and COACH	RAIL	OTHER	
<i>User benefits</i>		TOTAL	Private Cars and LGVs	Passengers	Passengers		
Travel time	91886	91886	91886	0	0		
Vehicle operating costs	4268	4268	4268				
User charges	0	0	0	0	0		
During Construction & Maintenance	0	0	0	0	0		
COMMUTING	96154	96154	96154	0	0		
Non-business: Other		ALL MODES	ROAD	BUS and COACH	RAIL	OTHER	
<i>User benefits</i>		TOTAL	Private Cars and LGVs	Passengers	Passengers		
Travel time	53068	53068	112590	0	0		
Vehicle operating costs	-112	-112	-112				
User charges	0	0	0	0	0		
During Construction & Maintenance	0	0	0	0	0		
NET NON-BUSINESS BENEFITS: OTHER	52956	161497	161497	0	0		
Business			Road (Personal)	Road (Freight)	Passengers	Freight	Passengers
<i>User benefits</i>							
Travel time	131454	82994	49460	0	0	0	
Vehicle operating costs	10762	2788	7994				
User charges	0	0	0	0	0	0	
During Construction & Maintenance	0	0	0	0	0	0	
Subtotal	142216	85782	56454	0	0	0	
<i>Private sector provider impacts</i>					Freight	Passengers	
Revenue	0				0	0	
Operating costs	0				0	0	
Investment costs	0				0	0	
Grant/subsidy	0				0	0	
Subtotal	0				0	0	
<i>Other business impacts</i>							
Developer contributions	0						
NET BUSINESS IMPACT	142216						
TOTAL							
Present Value of Transport Economic Efficiency Benefits (TEE)	291326						

Notes: Benefits appear as positive numbers, while costs appear as negative numbers.
All entries are discounted present values, in 2010 prices and values

Appendix M

APPRAISAL SUMMARY TABLE

APPENDIX M-1

APPRAISAL SUMMARY TABLE

Name of scheme:	A27 Arundel Bypass Scheme Option 0A	Name	Sophie Hartfield
Description of scheme:	SGAR1 Price base 2010 Road Investment Strategy, March 2015, for the 2015/16 - 2019/20 Road Period. "Our aim is to address congestion at key hotspots, the delays for road users, separation of communities – notably in Arundel.....and an above average number of accidents." "A27 Arundel bypass – a new dual carriageway bypass to link together the two existing dual carriageway sections of the road. The starting point will be the previous preferred route, subject to consultation with the National Park Authority, local government and the public on this, and alternative options." Option 0A involves improvements to existing at grade junction only.	Organisation	Highways England
		Role	Project Manager

Impacts	Summary of key impacts	Assessment				
		Quantitative	Qualitative	Monetary	Distributional	
Each scenario or sensitivity test (as a minimum, the core scenario and two alternative scenarios or sensitivity tests) should form the basis for a full appraisal, including environmental and other impacts where appropriate. It is expected that the core scenario will be reported in the AST, with any exceptional outcomes of the uncertainty analysis also included. EG if there are changes to the assumptions in the AST, with any exceptional outcomes of the uncertainty analysis also included. EG if there are changes to the assumptions in the AST, with any exceptional outcomes of the uncertainty analysis also included.				E(NPV)	7-pt scale/ vulnerable grp	
Economy	Business users & transport providers There will be journey time savings for business users as a result of implementing this option. This is because of improvements to Ford Road and Causeway Roundabouts and to Crossbush Junction. - the percentage of total TEE benefit during normal operation attributable to changes in business journey times and vehicle operating costs = 30.16% - the total vehicle hours saved by business users in opening year during normal operation = 128000 person hours For all vehicles and trip purposes combined: - the opening year peak and inter-peak journey time changes in minutes for all users combined - Route 1 A27 eastbound (AM - 5 mins, IP - 4 mins, PM - 2 mins) and Route 2 A27 westbound (AM - 0 mins, IP - 2 mins, PM - 3 mins) - peak hour journey time changes during construction in minutes - not assessed	Value of journey time changes(£)	48,610	N/A	PVB £52.629 m	
	Net journey time changes (£)					
	0 to 2min	2 to 5min	> 5min			
	15,791	30,352	2,467			
Reliability impact on Business users	Reliability not assessed	N/A	N/A	N/A		
Regeneration	Regeneration not assessed	N/A	N/A	N/A		
Wider Impacts	Wider impacts not assessed	N/A	N/A	N/A		
Environmental	Noise Sensitive receptors along the A27 corridor are likely to be subject to increases in noise due to a reduction in congestion of the road. There are seven NIAs which have the potential to be adversely affected. NIA 5486, at Ford Road roundabout, and NIA 5484, 70m south of the Causeway roundabout, are most likely to be impacted due to their proximity to the junction improvements associated with option 0A. Mitigation measures, with emphasis on protecting properties within NIAs will be considered at further design stages. The overall impact of Option 0A is expected to be Slight Adverse. Distributional impact analysis is excluded at this stage.	There are 16 residential receptors and one hospital within 200m of Option 0A. Within 600m, there are 91 residential receptors and one hospital. Seven NIAs are in proximity of the scheme along the existing A27 6157, 5484, 5486, 5485, 12488, 5488 and 5487.		N/A	Slight Adverse	
Air Quality	Air quality in the district is generally good, with annual mean NO2 concentrations in 2014 ranging from 12-25µg/m3. No exceedances of any air quality objective have been measured or predicted in Arun District and, as such, no AQMAs have been declared. Reductions in congestion are likely to improve air quality in the short-term. However, this improvement is likely to be negated in the long-term due to the single carriageway giving less capacity than peak demand. Traffic growth in future years (1-2% per annum, or 40% by 2041) is likely to result in a decrease in air quality. The overall impact of Option 0A is expected to be Slight Adverse. Distributional impact analysis is excluded at this stage.	There are 16 residential receptors and one hospital within 200m of Option 0A. Within 600m, there are 91 residential receptors and one hospital.		N/A	Slight Adverse	
Greenhouse gases	Greenhouse gases (carbon emissions) have been calculated using TUBA, which demonstrates CO2 emission benefits as a result of this option. However, it is understood that Environment Group consider carbon emission calculations in TUBA to be inaccurate. Therefore until a detailed air quality assessment is undertaken we can only provide a qualitative assessment advising that we expect carbon emissions to reduce, which might increase the BCR.	Change in non-traded carbon over 60y (CO2e)		Likely to be positive	N/A	
Landscape	Developments to the existing built environment are expected to have minimal negative impacts on landscape. Although the scheme is not very visually intrusive, it could result in impacts on views of the scheme from the Monarch's Way National Trail and Arundel Castle. The overall impact of Option 0A is expected to be Slight Adverse.	Change in traded carbon over 60y (CO2e)		Slight Adverse	N/A	
Townscape	Not assessed at this stage.			N/A	N/A	
Historic Environment	The land is already highly developed. However, there is the risk that intrusive groundworks in previously undisturbed land could impact on previously unrecorded buried remains. There are no anticipated impacts on known heritage assets. The overall impact of Option 0A is expected to be Neutral.			Neutral	N/A	
Biodiversity	The land is already highly developed and there is no anticipated land-take which will affect sites of nature conservation interest. The nearest non-statutory designated site to this scheme option is Poling Copse LWS which is approximately 400m to the north-east. This option is considered unlikely to have an adverse impact on internationally or nationally designated or non-statutory designated sites. The overall impact of Option 0A is expected to be Neutral.			Neutral	N/A	
Water Environment	The water environment in the study area is sensitive, due to the presence of the River Arun and various watercourses' drainage ditches within 1km of the scheme, as well as the underlying aquifers and close proximity of a Source Protection Zone (SPZ). Risk to the quality of the water environment is limited provided that appropriate pollution control measures and a robust water drainage system are installed. There are no anticipated works associated with the scheme that will impact on the River Arun or its floodplain and no anticipated impacts on groundwater resources. Due to the potential impact on surface water drainage, the overall impact of Option 0A is expected to be Slight Adverse.			Slight Adverse	N/A	
Social	Commuting and Other users There will be journey time savings for commuting and other users as a result of implementing this option. This is because of improvements to Ford Road and Causeway Roundabouts and to Crossbush Junction. - the percentage of total TEE benefit during normal operation attributable to changes in consumer journey times and vehicle operating costs = 69.84% - the total vehicle hours saved by consumer users in opening year during normal operation = 661000 person hours For all vehicles and trip purposes combined: - the opening year peak and inter-peak journey time changes in minutes for all users combined - Route 1 A27 eastbound (AM - 5 mins, IP - 4 mins, PM - 2 mins) and Route 2 A27 westbound (AM - 0 mins, IP - 2 mins, PM - 3 mins) - peak hour journey time changes during construction in minutes - not assessed	Value of journey time changes(£)	57,314	N/A	PVB £63.032 m	None identified
	Net journey time changes (£)					
	0 to 2min	2 to 5min	> 5min			
	9,001	43,777	4,536			
Reliability impact on Commuting and Other users	Not assessed at this stage.	N/A	N/A	N/A		
Physical activity	It is considered unlikely that the scheme will result in a significant impact on the amount of walking and cycling trips undertaken within the vicinity of the scheme extents and as such there would be limited or negligible impact on physical activity.	N/A	Neutral	N/A		
Journey quality	Scheme is expected to reduce congestion and increase journey time reliability within the scheme extents. It is therefore expected to reduce driver frustration. The proposed signalisation of Ford Road Roundabout and the Causeway Roundabout Junction is expected to reduce perception of the risk of a collision at those locations. As a result of Option 0A comprising improvements to junctions only the existing character of the route would be retained. There would be a reduction in journey quality during the construction phase of the project due to increased delays, and the presence of temporary traffic management.	N/A	Slight positive.	N/A		
Accidents	There are accident benefits associated with the scheme which have been assessed using COBALT	N/A	N/A	£0.053m	N/A	
Security	Scheme introduces improved lighting. However such improvements may be offset by increased numbers of signals - road users are thought to be more vulnerable to crime on the approaches to signals.		Neutral	N/A	N/A	
Access to services	Not assessed at this stage.	N/A	N/A	N/A	N/A	
Affordability	Not assessed at this stage.	N/A	N/A	N/A	N/A	
Severance	Proposed scheme introduces three signalised crossings at the Ford Road Roundabout, where currently there are no controlled crossing facilities. This will reduce the severance effects of the A27 on the conurbation of Arundel.	N/A	Slight Positive	N/A	N/A	
Option values	The scheme does not involve the loss or introduction of a new mode of transport and as such Option Values are unaffected.	N/A	N/A	N/A		
Public Accounts	Cost to Broad Transport Budget All costs are funded by central government.	NPV of Local Government Costs £0 m NPV of Central Government Costs £25.573 m		N/A	PVC £25.573m	
	Indirect Tax Revenues An increase in indirect tax revenues is observed as a result of the scheme.	NPV of change in indirect tax revenues £3.047m		N/A	PVB £3.047m Indirect Tax Revenues against Public Accounts (i.e. sign needs to be flipped on the ITR TUBA output. Eg if a project results in an increase in indirect tax revenue, this would appear as a negative number in the PA table, but as a positive number in the AST).	

Appraisal Summary Table		Date produced:	07-Apr-17	Contact:	
Name of scheme: A27 Arundel Bypass Scheme Option 1 Description of scheme: SGAR1 Price base 2010 Road Investment Strategy, March 2015, for the 2015/16 - 2019/20 Road Period: "our aim is to address congestion at key hotspots, the delays for road users, separation of communities – notably in Arundel.....and an above average number of accidents." "A27 Arundel bypass – a new dual carriageway bypass to link together the two existing dual carriageway sections of the road. The starting point will be the previous preferred route, subject to consultation with the National Park Authority, local government and the public on this, and alternative options." Option 1 provides a new dual carriageway following the existing corridor of the A27 west of Arundel very closely and taking an offline route to the east of Arundel. The route crosses the river Arun at the existing A27 crossing.		Name: Sophie Hartfield Organisation Role: Highways England Project Manager			
Impacts		Summary of key impacts		Assessment	
Each scenario or sensitivity test (as a minimum, the core scenario and two alternative scenarios or sensitivity tests) should form the basis for a full appraisal, including environmental and other impacts where appropriate. It is expected that the core scenario will be reported in the AST, with any exceptional outcomes of the uncertainty analysis also included. EG if there are significantly different results in an alternative scenario that would affect the AST score in a particular category, then that information will be included as qualitative comments (but quantifying the difference) in the AST		Quantitative		Monetary	
				E(NPV)	
				Distributional	
				7-pt scale/ vulnerable grp	
Economy	Business users & transport providers There will be journey time savings for business users as a result of implementing this option. This is because the existing A27 will be dualled through Arundel to Ford Road roundabout, and a dual carriageway bypass provided between Ford Road junction and Crossbush junction, replacing the existing single carriageway A27 through Arundel. In addition, the existing at grade signal-controlled Crossbush junction will be converted to a grade separated junction at the eastern tie-in. - the percentage of total TEE benefit during normal operation attributable to changes in business journey times and vehicle operating costs = 32.04% - the total vehicle hours saved by business users in opening year during normal operation = 239000 person hours For all all vehicles and trip purposes combined: - the opening year peak and inter-peak journey time changes in minutes for all users combined - Route 1 A27 eastbound (AM - 8 mins, IP - 5 mins, PM - 5 mins) and Route 2 A27 westbound (AM - 1 mins, IP - 4 mins, PM - 10 mins) - peak hour journey time changes during construction in minutes - peak hour journey time changes during construction in minutes - construction journey times not assessed	Value of journey time changes(£) 116,866 Net journey time changes (£) 0 to 2min 2 to 5min > 5min 6,907 83,780 26,179	N/A PVB £129,889 m		
	Reliability impact on Business users Reliability not assessed	N/A			
Regeneration Regeneration not assessed	N/A				
Wider Impacts Wider impacts not assessed		N/A		N/A	
Environmental	Noise Sensitive receptors along the A27 corridor are likely to be subject to increases in noise due to a reduction in congestion of the road. There are five NIAs (5486, 5485, 5488, 5489 and 5497) which have the potential to be adversely affected. Two NIAs (6157 and 5484) are likely to see a reduction in noise as a consequence of traffic diversion to the new offline section. In addition to the above, the A27 runs along-side and through the SDNP and two LWSs, which could also be adversely affected by increases in noise. Mitigation measures, with emphasis on protecting properties within NIAs, will be considered at further design stages. The overall impact of Option 1 is expected to be Slight Adverse. Distributional impact analysis is excluded at this stage.	There are 557 residential receptors and one hospital within 200m of Option 1. Within 600m, there are 1952 residential receptors, two hospitals, one care / nursing home and two primary schools. Seven NIAs are in proximity of the scheme along the existing A27 6157, 5484, 5486, 5485, 12488, 5488 and 5487.			Slight Adverse
	Air Quality Air quality in the district is generally good, with annual mean NO2 concentrations in 2014 ranging from 12-25µg/m3. No exceedances of any air quality objective have been measured or predicted in Arun District and, as such, no AQMAs have been declared. Option 1 is likely to result in significant reductions in congestion and queuing. This is likely to improve air quality in the short-term. Improvements in air quality at the roadside are expected between Crossbush and Causeway junctions through diversion of the traffic off the current alignment onto the scheme. However, at the Ford Road junction the increase in flows risks negating any improvements from reduced congestion. Traffic growth in future years (1-2% per annum, or 40% by 2041) is likely to reduce any benefits from reduced congestion. The overall impact of Option 1 is expected to be Neutral.	There are 557 residential receptors and one hospital within 200m of Option 1. Within 600m, there are 1952 residential receptors and five other sensitive receptors, two hospitals, one care / nursing home and two primary schools.			
Greenhouse gases Greenhouse gases (carbon emissions) have been calculated using TUBA, which demonstrates CO2 emission benefits as a result of this option. However, it is understood that Environment Group consider carbon emission calculations in TUBA to be inaccurate. Therefore until a detailed air quality assessment is undertaken we can only provide a qualitative assessment advising that we expect carbon emissions to reduce, which might increase the BCR.	Change in non-traded carbon over 60y (CO2e) Change in traded carbon over 60y (CO2e)	Likely to be positive			
Landscape Although the majority of the route is online, the small length of the offline section will result in the loss of agricultural and field boundaries. The pattern of the landscape could be affected by the removal of mature tree, shrub and hedgerow cover. There will be an increase in built form including road widening, the new offline section, earthworks, lighting, signage and traffic. The scheme may impact visually on views from the sensitive receptors of the Monarch's Way National Trail and Arundel Castle. Detailed landscape assessment will be undertaken at PCF stages 2 and 3 to determine appropriate mitigation and landscape design to reduce negative impacts. At this stage the overall impact of Option 1 is expected to be Slight Adverse.		Slight Adverse			
Townscape Not assessed at this stage.					
Historic Environment The proposed offline section of the scheme will cause disturbance during the construction phase through what is currently greenfield. Ground disturbance activities will include the widening of existing roads, the excavation of new roads and the excavation of associated services. There is the potential for adverse effects on earthworks or below ground heritage assets. These effects can be mitigated through an appropriate archaeological investigation. There is the potential for adverse impacts upon the setting of designated assets, including one Grade II* Listed building, two Grade II listed buildings and the Arundel Conservation Area, as well as 5 scheduled Monuments. The impacts are likely to include harm to the relationship between the asset and its setting so that the relationship is no longer readily appreciable; the interpretability of the significance of the asset is significantly reduced; a loss or reduction of rural tranquillity and / or where noise and air pollutants are likely to increase. Further assessment will be undertaken at PCF Stages 2 and 3 to determine detailed mitigation strategies to reduce negative impacts. At this stage the overall impact of Option 1 is expected to be Moderate Adverse.	Built heritage assets potentially affected by Option 1: 1 Grade II* Listed Building 2 Grade II Listed Buildings Arundel Conservation Area (including Arundel Castle)	Large Adverse			
Biodiversity The widening of the existing A27 carriageway is likely to result in the permanent loss of a narrow belt of ancient woodland habitat along the northern edge of Binsted Wood complex LWS, the southern edge of Rewell Wood Complex LWS and the woodland adjacent to Ford Road roundabout. This loss of Ancient Woodland (up to 5.5ha) could compromise the ecological integrity of the two LWSs. This option is considered unlikely to have an adverse impact on internationally or nationally designated sites. At this stage of the assessment process, without information from detailed ecological surveys or detailed design, it is not known whether the proposed works will impact on other habitats or species. At this stage the overall impact of Option 1 is expected to be Moderate Adverse.		Moderate Adverse			
Water Environment The water environment in the study area is sensitive, due to the presence of the River Arun and various watercourses / drainage ditches within 1km of the scheme, as well as the underlying aquifers and close proximity of a Source Protection Zone (SPZ). Option 1 requires the construction of new carriageway within currently undeveloped land to the east of Arundel. The greatest risks are likely to be associated with loss of fluvial floodplain storage and impacts to fluvial flood flow conveyance, which may adversely impact adjacent property and infrastructure. However, it is noted that few properties are located within close proximity to this area of floodplain storage. A robust water drainage system should be implemented to reduce operational effects. Option 1 will also cross number of land drains. However, assuming that the capacity of these drains can be maintained, the impact is likely to be negligible. There are no anticipated impacts on groundwater resources. The overall impact of Option 1 is expected to be Moderate Adverse.		Moderate Adverse			
Social	Commuting and Other users There will be journey time savings for commuters and other users as a result of implementing this option. This is because the existing A27 will be dualled through Arundel to Ford Road roundabout, and a dual carriageway bypass provided between Ford Road junction and Crossbush junction, replacing the existing single carriageway A27 through Arundel. In addition, the existing at grade signal-controlled Crossbush junction will be converted to a grade separated junction at the eastern tie-in. - the percentage of total TEE benefit during normal operation attributable to changes in consumers journey times and vehicle operating costs = 67.96% - the total vehicle hours saved by consumer users in opening year during normal operation = 1341000 person hours For all all vehicles and trip purposes combined: - the opening year peak and inter-peak journey time changes in minutes for all users combined - Route 1 A27 eastbound (AM - 8 mins, IP - 5 mins, PM - 5 mins) and Route 2 A27 westbound (AM - 1 mins, IP - 4 mins, PM - 10 mins) - peak hour journey time changes during construction in minutes - construction journey times not assessed	Value of journey time changes(£) 138,867 Net journey time changes (£) 0 to 2min 2 to 5min > 5min 3,542 90,586 44,739	N/A PVB £153,386 m		None Identified
	Reliability impact on Commuting and Other users Not assessed at this stage.	N/A			
Physical activity It is considered unlikely that the scheme will result in a significant impact on the amount of walking and cycling trips undertaken within the vicinity of the scheme extents and as such there would be limited or negligible impact on physical activity.	N/A				
Journey quality Scheme is expected to reduce congestion and increase journey time reliability within the scheme extents. It is therefore expected to reduce driver frustration. The proposed signalisation of Ford Road Roundabout is expected to reduce perception of the risk of a collision at the junction. The proposed section of bypass between Crossbush Junction and Ford Road Roundabout is expected to provide motorists with views of Arundel, the SDNP and other points of interest that are of at least equal quality to those experienced by motorists on the existing A27. There would be a reduction in journey quality during the construction phase of the project due to increased delays, and the presence of temporary traffic management.	N/A	Slight positive.			
Accidents There are accident benefits associated with the scheme which have been assessed using COBALT	N/A				
Security Scheme introduces improved lighting and provides smooth traffic flow conditions across proposed A27 link, which is thought to improve perceptions of security in comparison to stop-start traffic conditions.		slight positive			
Access to services A statement summarising the public transport accessibility impacts of the scheme	N/A				
Affordability Not assessed at this stage.	N/A				
Severance Proposed scheme introduces three signalised crossings at the Ford Road Roundabout, where currently there are no controlled crossing facilities. This will reduce the severance effects of the A27 on the conurbation of Arundel.	N/A	Slight Positive			
Option values The scheme does not involve the loss or introduction of a new mode of transport and as such Option Values are unaffected.	N/A				
Public Accounts	Cost to Broad Transport Budget All costs are funded by central government.	NPV of Local Government Costs £0 m NPV of Central Government Costs £87.190m			
	Indirect Tax Revenues An increase in indirect tax revenues is observed as a result of the scheme.	NPV of change in indirect tax revenues £8.129m			

Name of scheme:	A27 Arundel Bypass Scheme Option 3	Name:	Sophe Hartfield
Description of scheme:	SGAR1 Price base 2010 Road Investment Strategy, March 2015, for the 2015/16 - 2019/20 Road Period: "Our aim is to address congestion at key hotspots, the delays for road users, separation of communities – notably in Arundel.....and an above average number of accidents." "A27 Arundel bypass – a new dual carriageway bypass to link together the two existing dual carriageway sections of the road. The starting point will be the previous preferred route, subject to consultation with the National Park Authority, local government and the public on this, and alternative options." Option 3 provides a new dual carriageway bypass to the south of the existing route passing through part of the South Downs National Park. The eastern end of the bypass is located at the existing Cross Bush junction and the western end is located at a new grade separated junction near the Havenwood Caravan Park. The total length of the bypass is 5.1km.	Organisation:	Highways England
		Role:	Project Manager

Impacts	Summary of key impacts	Assessment						
		Quantitative			Monetary	Distributional		
					£(NPV)	7-pt scale/ vulnerable grp		
Economy	<p><i>Each scenario or sensitivity test (as a minimum, the core scenario and two alternative scenarios or sensitivity tests) should form the basis for a full appraisal, including environmental and other impacts where appropriate. It is expected that the core scenario will be reported in the AST, with any exceptional outcomes of the uncertainty analysis also included. EG if there are</i></p> <p>There will be journey time savings for business users as a result of implementing this option. This is because a dual carriageway with no intermediate junctions will be used instead of the existing single carriageway A27 with 2 junctions in Arundel which regularly experience congestion. In addition, the existing at grade signal-controlled Crossbush junction will be converted to a grade separated junction at the eastern tie-in.</p> <ul style="list-style-type: none"> - the percentage of total TEE benefit during normal operation attributable to changes in business journey times and vehicle operating costs = 35.17% - the total vehicle hours saved by business users in opening year during normal operation = 638000 person hours <p>For all all vehicles and trip purposes combined:</p> <ul style="list-style-type: none"> - the opening year peak and inter-peak journey time changes in minutes for all users combined - Route 1 A27 eastbound (AM - 9 mins, IP - 6 mins, PM - 6 mins) and Route 2 A27 westbound (AM - 1 mins, IP - 4 mins, PM - 11 mins) - peak hour journey time changes during construction in minutes - construction journey times not assessed 	Value of journey time changes(£)			128,452	PVB £131.869 m		
		Net journey time changes (£)						N/A
		0 to 2min	2 to 5min	> 5min				
		3,081	91,435		33,936			
Reliability impact on Business users	Reliability not assessed	N/A			N/A	N/A		
Regeneration	Regeneration not assessed	N/A			N/A	N/A		
Wider Impacts	Wider impacts not assessed	N/A			N/A	N/A		
Environmental	Noise	Sensitive receptors along the A27 corridor, including seven NIAs, are likely to be subject to decreases in noise due to the diversion of traffic to the bypass. Commercial properties at the eastern extent of the offline route, and several properties, including Priory Farm, could be potentially adversely affected by the new offline route. A limited number of residential properties may also be impacted in southern Arundel. In addition to the above, the proposed route runs along-side and through the SDNP and a Local Wildlife Site, both of which could also be adversely affected by increases in noise. Mitigation measures will be considered at further design stages. The overall impact of Option 3 is expected to be Neutral.	There are 51 residential receptors within 200m of Option 3. Within 600m, there are 275 residential receptors and one hospital. Seven NIAs are in proximity of the scheme along the existing A27 6157, 5484, 5486, 5485, 12488, 5488 and 5487.			N/A	Neutral	
	Air Quality	Air quality in the district is generally good, with annual mean NO2 concentrations in 2014 ranging from 12-25µg/m3. No exceedances of any air quality objective have been measured or predicted in Arun District and, as such, no AQMAs have been declared. This option would make congestion and queuing along the A27 very unlikely. Anticipated demand, based on traffic growth of 40% by 2041. The scheme would accommodate for this during peak periods on all A27 links. There would be some re-routing from local roads to the bypass resulting in benefits to communities living close to the existing congested routes. The offline alignment which removes the traffic congestion around Crossbush junction and along existing A27 would result in significant improvement in air quality. The overall impact of Option 3 is expected to be Moderate Beneficial.	There are 51 residential receptors within 200m of Option 3. Within 600m, there are 275 residential receptors and one hospital.			N/A	Moderate Beneficial	
	Greenhouse gases	Greenhouse gases (carbon emissions) have been calculated using TUBA, which demonstrates CO2 emission benefits as a result of this option. However, it is understood that Environment Group consider carbon emission calculations in TUBA to be inaccurate. Therefore until a detailed air quality assessment is undertaken we can only provide a qualitative assessment advising that we expect carbon emissions to reduce, which might increase the BCR.	Change in non-traded carbon over 60y (CO2e)			Likely to be positive	N/A	
	Landscape	This option is expected to have high levels of adverse effects on landscape. The offline route will result in the loss of agricultural and field boundaries. The pattern of the landscape could be affected by the removal of mature trees, shrub and hedgerow cover. There will be an increase in built form including the new offline section, earthworks, lighting, signage and traffic. A large area of Ancient Woodland will be lost at Binsted Wood, causing disturbance to woodland paths, rides and PPOVs. There will be views of scheme and associated traffic from residential properties, Arundel Conservation Area, the SDNP and River Arun footpath. Mitigation screen planting and landscaping can be used to reduce adverse effects. Detailed landscape assessment will be undertaken at PCF stages 2 and 3 to determine appropriate mitigation and landscape design to reduce negative impacts. At this stage the overall impact of Option 3 is expected to be Large Adverse.	Large Adverse			N/A		
Social	Townscape	Not assessed at this stage.				N/A		
	Historic Environment	The proposed scheme will cause disturbance during the construction phase through what is currently greenfield. Ground disturbance activities will include the widening of existing roads, the excavation of new roads and the excavation of associated services. There is the potential for adverse effects on earthworks or below ground heritage assets. The removal of areas of Ancient Woodland within Binsted Wood will almost certainly disturb archaeological features relating to occupational activity and historic stock management from the Prehistoric Period onwards. These effects can be mitigated through an appropriate archaeological investigation. There is the potential for adverse impacts upon the setting of designated assets, including two Grade II* Listed buildings, six Grade II listed buildings, the Arundel Conservation Area and 5 Scheduled Monuments. The impacts are likely to include harm to the relationship between the asset and its setting so that the relationship is no longer readily appreciable; the interpretability of the significance of the asset is significantly reduced; a loss or reduction of rural tranquility and / or where noise and air pollutants are likely to increase. Further assessment will be undertaken at PCF Stages 2 and 3 to determine detailed mitigation strategies to reduce negative impacts. At this stage the overall impact of Option 3 is expected to be Large Adverse.	Bull Heritage assets potentially affected by Option 3: 2 Grade II* Listed Buildings 6 Grade II Listed Buildings Arundel Conservation Area (including Arundel Castle) 1 Scheduled Monument			Large Adverse	N/A	
	Biodiversity	The proposed route of Option 3 passes through the centre of Binsted Wood Complex LWS. As a consequence of this approximately 24.5ha of ancient woodland would be removed. This loss of ancient woodland could potentially compromise the integrity of the LWS. This option is considered unlikely to have an adverse impact on internationally or nationally designated sites. At this stage of the assessment process, without information from detailed ecological surveys or detailed design, it is not known whether the proposed works will impact on other habitats or species. At this stage the overall impact of Option 3 is expected to be Large Adverse.	Large Adverse			N/A		
	Water Environment	The water environment in the study area is sensitive, due to the presence of the River Arun and various watercourses / drainage ditches within 1km of the scheme, as well as the underlying aquifers and close proximity of a Source Protection Zone (SPZ). Option 3 will cross a number of ordinary watercourses and land drains within Fowler's Copse, Binsted Wood and Torrington Common, and a number of land drains between Ford Road and the Arun Valley Railway. The risks to the quality of the water environment can be largely mitigated during operation through the implementation of a robust surface water drainage system. The greatest flood risks will be associated with temporary and permanent works within the floodplain and channel of the River Arun. Any reduction in the fluvial capacity of the watercourse or floodplain, or impacts to existing flood defences, could increase flood risk to urban areas of Arundel and to Priory Farm to the south of the scheme alignment. Option 3 will also cross a number of important ordinary watercourses within Fowler's Copse, Binsted Wood and Torrington Common and, unless a culvert / bridge of sufficient capacity is provided, this could cause localised increase in flood risk. Appropriate mitigation measures may therefore be required to maintain the capacity of the watercourses.	Moderate Adverse			N/A		
Public Accounts	Commuting and Other users	There will be journey time savings for commuters and other users as a result of implementing this option. This is because a dual carriageway with no intermediate junctions will be used instead of the existing single carriageway A27 with 2 junctions in Arundel which regularly experience congestion. In addition, the existing at grade signal-controlled Crossbush junction will be converted to a grade separated junction at the eastern tie-in. <ul style="list-style-type: none"> - the percentage of total TEE benefit during normal operation attributable to changes in consumers journey times and vehicle operating costs = 64.83% - the total vehicle hours saved by consumer users in opening year during normal operation = 1380000 person hours <p>For all all vehicles and trip purposes combined:</p> <ul style="list-style-type: none"> - the opening year peak and inter-peak journey time changes in minutes for all users combined - Route 1 A27 eastbound (AM - 9 mins, IP - 6 mins, PM - 6 mins) and Route 2 A27 westbound (AM - 1 mins, IP - 4 mins, PM - 11 mins) - peak hour journey time changes during construction in minutes - construction journey times not assessed 	Value of journey time changes(£)			142,054	PVB £141.278 m	
	Net journey time changes (£)				N/A			
	0 to 2min	2 to 5min	> 5min					
	507	99,238		42,309				
Reliability impact on Commuting and Other users	Not assessed at this stage.	N/A			N/A	N/A		
Physical activity	It is considered unlikely that the scheme will result in a significant impact on the amount of walking and cycling trips undertaken within the vicinity of the scheme extents and as such there would be limited or negligible impact on physical activity.	N/A			Neutral	N/A		
Journey quality	Scheme is expected to reduce congestion and increase journey time reliability within the scheme extents. It is therefore expected to reduce driver frustration. <p>The proposed section of bypass is expected to provide motorists with views of Arundel, the SDNP and other points of interest that are of at least equal quality to those experienced by motorists on the existing A27.</p> <p>There would be a reduction in journey quality during the construction phase of the project due to increased delays, and the presence of temporary traffic management.</p>	N/A			Slight positive.	N/A		
Accidents	There are accident benefits associated with the scheme which have been assessed using COBALT	Estimates of the difference in the number of injury accidents, and casualties by severity, over the appraisal period			N/A	£63.72m		
Security	Scheme introduces improved lighting and provides smooth traffic flow conditions across proposed A27 link, which is thought to improve perceptions of security in comparison to stop-start traffic conditions.				slight positive	N/A		
Access to services	Not assessed at this stage.	N/A			7 point Overall Assessment Score	N/A		
Affordability	Not assessed at this stage.	N/A			7 point Overall Assessment Score	N/A		
Severance	Scheme will significantly reduce volume of motor traffic passing along the existing A27. As such will reduce severance within conurbation of Arundel, with pedestrian, cycle and motor vehicle trips easier to make between locations to the north of Ford Road Roundabout and those to the south.	N/A			Slight Positive	N/A		
Option values	The scheme does not involve the loss or introduction of a new mode of transport and as such Option Values are unaffected.	N/A			N/A	N/A		
Public Accounts	Cost to Broad Transport Budget	All costs are funded by central government.	NPV of Local Government Costs £0 m NPV of Central Government Costs £166.997m			N/A	PVC £166.997m	
	Indirect Tax Revenues	An increase in indirect tax revenues is observed as a result of the scheme.	NPV of change in indirect tax revenues £0.863m			N/A	PVB £0.863m Indirect Tax Revenues against Public Accounts (i.e. sign needs to be flipped on the ITR TUBA output. Eg if a project results in an increase in indirect tax revenue, this would appear as a negative number in the PA table, but as a positive number in the AST).	

Appraisal Summary Table		Date produced:	07-Apr-17	Contact:	
Name of scheme:	A27 Arundel Bypass Scheme Option 5A	Name	Sophie Hartfield		
Description of scheme:	SGAR1 Price base 2010 Road Investment Strategy, March 2015, for the 2015/16 - 2019/20 Road Period: "our aim is to address congestion at key hotspots, the delays for road users, separation of communities – notably in Arundel.....and an above average number of accidents." "A27 Arundel bypass – a new dual carriageway bypass to link together the two existing dual carriageway sections of the road. The starting point will be the previous preferred route, subject to consultation with the National Park Authority, local government and the public on this, and alternative options." Option 5A provides a new dual carriageway bypass to the south of the existing route passing through part of the South Downs National Park. The eastern end of the bypass is located at the existing Cross Bush junction and the western end is located at a new grade separated junction near Binsted Lane. The total length of the bypass is 6.45km.	Organisation Role	Highways England Project Manager		
Impacts	Summary of key impacts	Quantitative	Assessment Qualitative	Monetary £(NPV)	Distributional 7-pt scale/ vulnerable grp
<p><i>Each scenario or sensitivity test (as a minimum, the core scenario and two alternative scenarios or sensitivity tests) should form the basis for a full appraisal, including environmental and other impacts where appropriate. It is expected that the core scenario will be reported in the AST, with any exceptional outcomes of the uncertainty analysis also included. EG if there are significantly different results in an alternative scenario that would affect the AST score in a particular category, then that information will be included as qualitative comments (but quantifying the difference) in the AST.</i></p>					
Economy	Business users & transport providers	Value of journey time changes(£)	155,993	N/A	PVB £167.873m
		Net journey time changes (£)			
		0 to 2min	2 to 5min	> 5min	
	<p>There will be journey time savings for business users as a result of implementing this option. This is because a dual carriageway with no intermediate junctions will be used instead of the existing single carriageway A27 with 2 junctions in Arundel which regularly experience congestion. In addition, the existing at grade signal-controlled Crossbush junction will be converted to a grade separated junction at the eastern tie-in.</p> <p>- the percentage of total TEE benefit during normal operation attributable to changes in business journey times and vehicle operating costs = 35.21%</p> <p>- the total vehicle hours saved by business users in opening year during normal operation = 290000 person hours</p> <p>For all all vehicles and trip purposes combined:</p> <p>- the opening year peak and inter-peak journey time changes in minutes for all users combined - Route 1 A27 eastbound (AM - 10 mins, IP - 7 mins, PM - 7 mins) and Route 2 A27 westbound (AM - 3 mins, IP - 5 mins, PM - 14 mins)</p> <p>- peak hour journey time changes during construction in minutes - construction journey times not assessed</p>	4,377	94,904	56,712	
	Reliability impact on Business users	Reliability not assessed	N/A	N/A	N/A
	Regeneration	Regeneration not assessed	N/A	N/A	N/A
	Wider Impacts	Wider impacts not assessed	N/A	N/A	N/A
Environmental	Noise	Sensitive receptors along the A27 corridor, including seven NIAs, are likely to be subject to decreases in noise due to the diversion of traffic to the bypass. Commercial properties at the eastern extent of the offline route, and several properties, including Priory Farm, could be potentially adversely affected by the new offline route. A limited number of residential properties may also be impacted in southern Arundel. Rural areas in the proximity of Tortington and Binsted may also be affected. In addition to the above, the proposed route runs alongside and through the SDNP and a Local Wildlife Site, both of which could also be adversely affected by increases in noise. Mitigation measures will be considered at further design stages. The overall impact of Option 5A is expected to be Neutral.	There are 48 residential receptors within 200m of Option 5A. Within 600m, there are 288 residential receptors and one hospital. Seven NIAs are in proximity of the scheme along the existing A27 6157, 5484, 5486, 5485, 12488, 5488 and 5487.	N/A	Neutral
	Air Quality	Air quality in the district is generally good, with annual mean NO2 concentrations in 2014 ranging from 12-25µg/m3. No exceedances of any air quality objective have been measured or predicted in Arun District and, as such, no AQMAs have been declared. This option would make congestion and queuing along the A27 very unlikely. Anticipated demand, based on traffic growth of 1-2% per annum, is an increase of 40% by 2041. The scheme would accommodate for this during peak periods on all A27 links. There would be some re-routing from local roads to the bypass resulting in benefits to communities living close to the existing congested routes. The offline alignment which removes the traffic congestion around Crossbush junction and along existing A27 would result in significant improvement in air quality. The overall impact of Option 5A is expected to be Moderate Beneficial.	There are 48 residential receptors within 200m of Option 5A. Within 600m, there are 288 residential receptors and one hospital. Within 600m, there are 288 residential receptors and one hospital.	N/A	Moderate Beneficial
	Greenhouse gases	Greenhouse gases (carbon emissions) have been calculated using TUBA, which demonstrates CO2 emission benefits as a result of this option. However, it is understood that Environment Group consider carbon emission calculations in TUBA to be inaccurate. Therefore until a detailed air quality assessment is undertaken we can only provide a qualitative assessment advising that we expect carbon emissions to reduce, which might increase the BCR.	Change in non-traded carbon over 60y (CO2e)	Likely to be positive	N/A
			Change in traded carbon over 60y (CO2e)		
	Landscape	Entirely offline, this option is expected to have high levels of adverse effects on landscape. The offline route will result in the loss of agricultural and field boundaries. The pattern of the landscape could be affected by the removal of mature tree, shrub and hedgerow cover. There will be an increase in built form including the new offline section, earthworks, lighting, signage and traffic. Ancient Woodland will be lost at Binsted Wood, as well as the loss of wooded lanes and severed access to PROWs for recreational use from dwellings in the vicinity of Torton Hill. The scheme will introduce a new large scale, prominent and uncharacteristic feature in the Arun Valley landscape. There will be views of scheme and associated traffic from sensitive receptors, including residential properties, Arundel Conservation Area, the Monarch's Way National Trail, the SDNP and River Arun footpath. Mitigation screen planting and landscaping can be used to reduce adverse effects. Detailed landscape assessment will be undertaken at PCF stages 2 and 3 to determine appropriate mitigation and landscape design to reduce negative impacts. At this stage the overall impact of Option 5A is expected to be Moderate Adverse.		Large Adverse	N/A
	Townscape	Not assessed at this stage.			N/A
	Historic Environment	The proposed scheme will cause disturbance during the construction phase through what is currently greenfield land. Ground disturbance activities will include the widening of existing roads, the excavation of new roads and the excavation of associated services. There is the potential for adverse effects on earthworks or below ground heritage assets. The removal of areas of Ancient Woodland will almost certainly disturb archaeological features relating to occupational activity and historic stock management from the Prehistoric Period onwards. These effects can be mitigated through an appropriate archaeological investigation. There is the potential for adverse impacts upon the setting of designated assets, including two Grade II* Listed Buildings, 17 Grade II Listed Buildings, the Arundel Conservation Area and Tortington Priory Scheduled Monument. The impacts are likely to include harm to the relationship between the asset and its setting so that the relationship is no longer readily appreciable; the interpretability of the significance of the asset is significantly reduced; a loss or reduction of rural tranquillity and / or where noise and air pollutants are likely to increase. Further assessment will be undertaken at PCF Stages 2 and 3 to determine detailed mitigation strategies to reduce negative impacts. At this stage the overall impact of Option 5A is expected to be Moderate Adverse.	Built heritage assets potentially affected by Option 5A: 2 Grade II* Listed Buildings 17 Grade II Listed Buildings Arundel Conservation Area (including Arundel Castle) 1 Scheduled Monument	Large Adverse	N/A
	Biodiversity	Option 5A largely circumnavigates Binsted Wood Complex LWS. However, it is predicted to result in the loss of up to 6ha of Ancient Woodland from the north west corner of site. This option is considered unlikely to have an adverse impact on internationally or nationally designated sites. At this stage of the assessment process, without information from detailed ecological surveys or detailed design, it is not known whether the proposed works will impact on other habitats or species. At this stage the overall impact of Option 5A is expected to be Moderate Adverse.		Moderate Adverse	N/A
	Water Environment	The water environment in the study area is sensitive, due to the presence of the River Arun and various watercourses / drainage ditches within 1km of the scheme, as well as the underlying aquifers and close proximity of a Source Protection Zone (SPZ). Option 5A will cross the main river that conveys flow from the south of Binsted Wood to the River Arun, and it will also cross a number of land drains between Ford Road and the Arun Valley Railway. The risks to the quality of the water environment can be largely mitigated during operation through the implementation of a robust surface water drainage system. The greatest flood risks will be associated with temporary and permanent works within the floodplain and channel of the River Arun and the main river south of Binsted Wood. Any reduction in the fluvial capacity of the watercourses or floodplains, or impacts to existing flood defenses, could increase flood risk. There are a number of properties located in the vicinity of the scheme along Binsted Lane that would likely be affected by increased flood risk. Appropriate mitigation measures may therefore be required to maintain the capacity of the watercourses and floodplains. There are no anticipated impacts on groundwater resources. The overall impact of Option 5A is expected to be Moderate Adverse.		Moderate Adverse	N/A
Social	Commuting and Other users	There will be journey time savings for commuters and other users as a result of implementing this option. This is because a dual carriageway with no intermediate junctions will be used instead of the existing single carriageway A27 with 2 junctions in Arundel which regularly experience congestion. In addition, the existing at grade signal-controlled Crossbush junction will be converted to a grade separated junction at the eastern tie-in.	Value of journey time changes(£)	176,807	None identified
			Net journey time changes (£)		
			0 to 2min	2 to 5min	> 5min
			1,969	104,880	69,958
	Reliability impact on Commuting and Other users	Not assessed at this stage.	N/A	N/A	N/A
	Physical activity	It is considered unlikely that the scheme will result in a significant impact on the amount of walking and cycling trips undertaken within the vicinity of the scheme extents and as such there would be limited or negligible impact on physical activity.	N/A	Neutral	N/A
	Journey quality	Scheme is expected to reduce congestion and increase journey time reliability within the scheme extents. It is therefore expected to reduce driver frustration.	N/A	Slight positive.	N/A
		The proposed section of bypass is expected to provide motorists with views of Arundel, the SDNP and other points of interest that are of at least equal quality to those experienced by motorists on the existing A27.			
		There would be a reduction in journey quality during the construction phase of the project due to increased delays, and the presence of temporary traffic management.			
	Accidents	There are accident benefits associated with the scheme which have been assessed using COBALT	N/A	N/A	£76.41m
	Security	Scheme introduces improved lighting and provides smooth traffic flow conditions across proposed A27 link, which is thought to improve perceptions of security in comparison to stop-start traffic conditions.		slight positive	N/A
	Access to services	Not assessed at this stage.	N/A	7 point Overall Assessment Score	N/A
	Affordability	Not assessed at this stage.	N/A	7 point Overall Assessment Score	N/A
	Severance	Scheme will significantly reduce volume of motor traffic passing along the existing A27. As such will reduce severance within conurbation of Arundel, with pedestrian, cycle and motor vehicle trips easier to make between locations to the north of Ford Road Roundabout and those to the south.	N/A	Slight Positive	N/A
	Option values	The scheme does not involve the loss or introduction of a new mode of transport and as such Option Values are unaffected.	N/A	N/A	N/A
Public Accounts	Cost to Broad Transport Budget	All costs are funded by central government.	NPV of Local Government Costs £0 m	N/A	PVC £162.005m
	Indirect Tax Revenues	An increase in indirect tax revenues is observed as a result of the scheme.	NPV of Central Government Costs £162.005m	N/A	PVB £5.317m
			NPV of change in indirect tax revenues £5.317m	N/A	Indirect Tax Revenues against Public Accounts (i.e. sign needs to be flipped on the ITR TUBA output. Eg if a project results in an increase in indirect tax revenue, this would appear as a negative number in the PA table, but as a positive number in the AST).

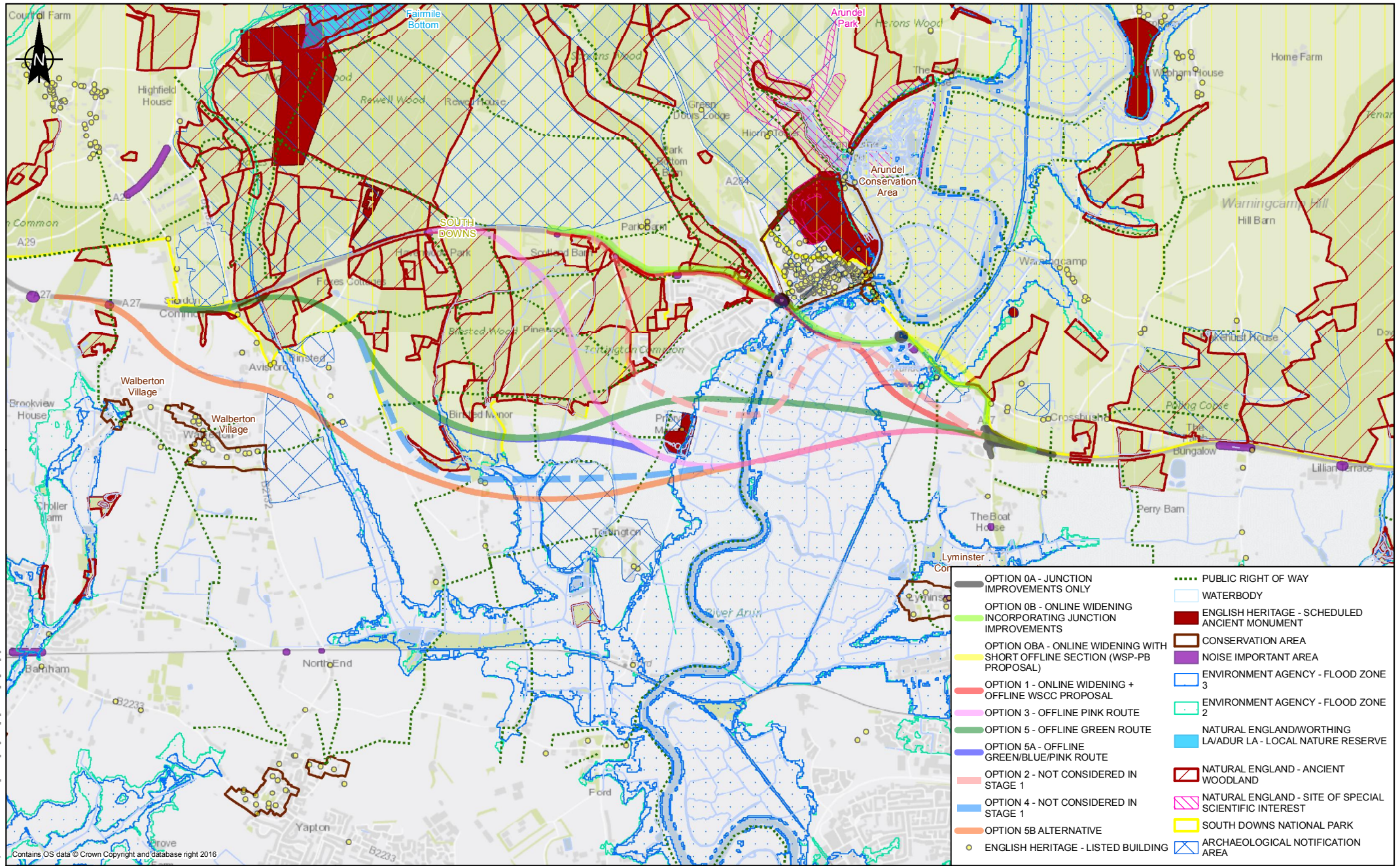
Appraisal Summary Table		Date produced:	07-Apr-17	Contact:	
Name of scheme:	A27 Arundel Bypass Scheme Option 5B	Name	Sophe Hartfield		
Description of scheme:	SGAR1 Price base 2010 Road Investment Strategy, March 2015, for the 2015/16 - 2019/20 Road Period. "Our aim is to address congestion at key hotspots, the delays for road users, separation of communities - notably in Arundel.....and an above average number of accidents." "A27 Arundel bypass - a new dual carriageway bypass to link together the two existing dual carriageway sections of the road. The starting point will be the previous preferred route, subject to consultation with the National Park Authority, local government and the public on this, and alternative options." Option 5B provides a new dual carriageway bypass to the south of the existing route passing to the south of the South Downs National Park. The eastern end of the bypass is located at the existing Cross Bush junction and the western end is located at a new grade separated junction west of Yapton Lane. The total length of the bypass is 7.35km.	Organisation	Highways England		
		Role	Project Manager		
Impacts	Summary of key impacts	Quantitative	Assessment Qualitative	Monetary £(NPV)	Distributional 7-pt scale/ vulnerable grp
	Each scenario or sensitivity test (as a minimum, the core scenario and two alternative scenarios or sensitivity tests) should form the basis for a full appraisal, including environmental and other impacts where appropriate. It is expected that the core scenario will be reported in the AST, with any exceptional outcomes of the uncertainty analysis also included. EG if there are				
Economy	Business users & transport providers	Value of journey time changes(£)	131,456	N/A	PVB £142.217m
		Net journey time changes (£)			
	The percentage of total TEE benefit during normal operation attributable to changes in business journey times and vehicle operating costs = 37.19% The total vehicle hours saved by business users in opening year during normal operation = 253000 person hours For all all vehicles and trip purposes combined: - the opening year peak and inter-peak journey time changes in minutes for all users combined - Route 1 A27 eastbound (AM - 10 mins, IP - 7 mins, PM - 7 mins) and Route 2 A27 westbound (AM - 2 mins, IP - 5 mins, PM - 14 mins) - peak hour journey time changes during construction in minutes - construction journey times not assessed	0 to 2min	2 to 5min	> 5min	
		1,392	92,242	37,822	
	Reliability impact on Business users	Reliability not assessed	N/A	N/A	N/A
	Regeneration	Regeneration not assessed	N/A	N/A	N/A
	Wider impacts	Wider impacts not assessed	N/A	N/A	N/A
Environmental	Noise	Sensitive receptors along the A27 corridor, including seven NIAs, are likely to be subject to decreases in noise due to the diversion of traffic to the bypass. Two NIAs to the west of the route (6158 and 5490) have the potential to be impacted by increases in noise. Commercial properties at the eastern extent of the offline route, and several properties, including Priory Farm, could be potentially adversely affected by the new offline route. A limited number of residential properties may also be impacted in southern Arundel. Rural areas in the proximity of Warberton, Tortington and Binsted may also be affected. In addition to the above, the proposed route runs alongside and through the SDNP and a Local Wildlife Site, both of which could also be adversely affected by increases in noise. Mitigation measures, with emphasis on properties affected within NIAs, will be considered at further design stages. The overall impact of Option 5B is expected to be Neutral. Distributional impact analysis is excluded at this stage.	There are 73 residential receptors, one hospital and one primary school within 200m of Option 5B. Within 600m, there are 718 residential receptors, two hospitals and two primary schools. Seven NIAs are in proximity of the scheme along the existing A27 6157, 5484, 5486, 5485, 12488, 5488 and 5487.	N/A	Neutral
	Air Quality	Air quality in the district is generally good, with annual mean NO2 concentrations in 2014 ranging from 12-25µg/m3. No exceedances of any air quality objective have been measured or predicted in Arun District and, as such, no AQMAs have been declared. This option would make congestion and queuing along the A27 very unlikely. Anticipated demand, based on traffic growth of 1-2% per annum, is an increase of 40% by 2041. The scheme would accommodate for this during peak periods on all A27 links. There would be some re-routing from local roads to the bypass resulting in benefits to communities living close to the existing congested routes. The offline alignment which removes the traffic congestion around Crossbush junction and along existing A27 would result in significant improvement in air quality. However, residential properties on Yapton Lane, to the north of Warberton are likely to experience a worsening in air quality due to the scheme. The overall impact of Option 5B is expected to be Moderate Beneficial. Distributional impact analysis is excluded at this stage.	There are 73 residential receptors, one hospital and one primary school within 200m of Option 5B. Within 600m, there are 718 residential receptors, two hospitals and two primary schools.	N/A	Moderate Beneficial
	Greenhouse gases	Greenhouse gases (carbon emissions) have been calculated using TUBA, which demonstrates CO2 emission benefits as a result of this option. However, it is understood that Environment Group consider carbon emission calculations in TUBA to be inaccurate. Therefore until a detailed air quality assessment is undertaken we can only provide a qualitative assessment advising that we expect carbon emissions to reduce, which might increase the BCR.	Change in non-traded carbon over 80y (CO2e) Change in traded carbon over 80y (CO2e)	Likely to be positive	N/A
	Landscape Townscape	This option is expected to have high levels of adverse effects on landscape. The offline route will result in the loss of agricultural and field boundaries. The pattern of the landscape could be affected by the removal of mature tree, shrub and hedgerow cover. There will be an increase in built form including the new offline section, earthworks, lighting, signage and traffic. There will effects on the topography of the Binstead 'hidden valleys' from earthworks and retaining structures. The scheme will introduce a new large scale, prominent and uncharacteristic feature in the Arun Valley landscape. The western end of the offline section will require the removal of residential properties and extensive loss of land within Arundel Golf Course. There will be views of scheme and associated traffic from sensitive receptors, including residential properties, Arundel Conservation Area, the Monarch's Way National Trail, the SDNP and River Arun footpath. Mitigation screen planting and landscaping can be used to reduce adverse effects. Detailed landscape assessment will be undertaken at PCF stages 2 and 3 to determine appropriate mitigation and landscape design to Not assessed at this stage.	Large Adverse	N/A	
	Historic Environment	The proposed scheme will cause disturbance during the construction phase through what is currently greenfield land. Ground disturbance activities will include the widening of existing roads, the excavation of new roads and the excavation of associated services. There is the potential for adverse effects on earthworks or below ground heritage assets. The removal of areas of Ancient Woodland will almost certainly disturb archaeological features relating to occupational activity and historic stock management from the Prehistoric Period onwards. These effects can be mitigated through an appropriate archaeological investigation. There is the potential for adverse impacts upon the setting of designated assets, including three Grade II* Listed buildings, 49 Grade II listed buildings, the Arundel Conservation Area, Warberton Conservation Area and Tortington Priory Scheduled Monument. The impacts are likely to include harm to the relationship between the asset and its setting so that the relationship is no longer readily appreciable; the interpretability of the significance of the asset is significantly reduced; a loss or reduction of rural tranquillity and/or where noise and air pollutants are likely to increase. Further assessment will be undertaken at PCF Stages 2 and 3 to determine detailed mitigation strategies to reduce Option 5B does not require any land from designated or non-designated sites. The nearest non-designated site is Binsted Wood Complex LWS, which is located approximately 0.25km to the north. Option 5B would cross a small stream which drains Binsted Wood LWS and although the scheme is downstream, hydrological impacts on the LWS cannot be ruled out without further investigation. This option is considered unlikely to have an adverse impact on internationally or nationally designated sites. At this stage of the assessment process, without information from detailed ecological surveys or detailed design, it is not known whether the proposed works will affect other habitats or species. At this stage of Option 5B a category of Moderate Adverse.	Built heritage assets potentially affected by Option 5B: 3 Grade II* Listed Buildings 49 Grade II Listed Buildings Arundel Conservation Area (including Arundel Castle) Warberton Conservation Area 1 Scheduled Monument	Large Adverse	N/A
	Biodiversity	Option 5B does not require any land from designated or non-designated sites. The nearest non-designated site is Binsted Wood Complex LWS, which is located approximately 0.25km to the north. Option 5B would cross a small stream which drains Binsted Wood LWS and although the scheme is downstream, hydrological impacts on the LWS cannot be ruled out without further investigation. This option is considered unlikely to have an adverse impact on internationally or nationally designated sites. At this stage of the assessment process, without information from detailed ecological surveys or detailed design, it is not known whether the proposed works will affect other habitats or species. At this stage of Option 5B a category of Moderate Adverse.	Slight Adverse	N/A	
	Water Environment	Option 5B will cross the two main rivers located to the west and to the south of Binsted Wood, as well as the River Arun to the east. It will also cross a number of land drains between Ford Road and the Arun Valley Railway. There is an existing system of ponds located in the Arundel Park Golf Club to the east and west of Yapton Lane which are likely to be removed as a result of the proposed alignment. Risks to the quality of the water environment can be largely mitigated during operation through the implementation of a robust surface water drainage system. The greatest flood risk is associated with temporary and permanent works within the floodplain and channel of the River Arun, and with the required crossings over the main rivers located to the south and west of Binsted Wood. Unless a culvert/ bridge of sufficient capacity is provided to maintain the fluvial capacity of the channel and floodplain, or appropriate flood compensation is provided, this could cause localised increases in flood risk. A number of properties are located in the vicinity of the scheme in Warberton and along Binsted Lane that are likely to be adversely affected by this risk. The overall impact is considered to be Moderate Adverse.	Moderate Adverse	N/A	
Social	Commuting and Other users	There will be journey time savings for commuters and other users as a result of implementing this option. This is because a dual carriageway with no intermediate junctions will be used instead of the existing single carriageway A27 with 2 junctions in Arundel which regularly experience congestion. In addition, the existing at grade signal-controlled Crossbush junction will be converted to a grade separated junction at the eastern tie-in. The percentage of total TEE benefit during normal operation attributable to changes in consumers journey times and vehicle operating costs = 62.81% - the total vehicle hours saved by consumer users in opening year during normal operation = 1326000 person hours For all all vehicles and trip purposes combined: - the opening year peak and inter-peak journey time changes in minutes for all users combined - Route 1 A27 eastbound (AM - 10 mins, IP - 7 mins, PM - 7 mins) and Route 2 A27 westbound (AM - 2 mins, IP - 5 mins, PM - 14 mins) - peak hour journey time changes during construction in minutes - construction journey times not assessed	Value of journey time changes(£)	144,956	None identified
		Net journey time changes (£)			
		0 to 2min	2 to 5min	> 5min	
		2,159	101,753	45,362	
	Reliability impact on Commuting and Other users	Not assessed at this stage.	N/A	N/A	PVB £m for MyRIAD based assessments N/A for stress based assessments.
	Physical activity	It is considered unlikely that the scheme will result in a significant impact on the amount of walking and cycling trips undertaken within the vicinity of the scheme extents and as such there would be limited or negligible impact on physical activity.	N/A	Neutral	N/A
	Journey quality	Scheme is expected to reduce congestion and increase journey time reliability within the scheme extents. It is therefore expected to reduce driver frustration. The proposed section of bypass is expected to provide motorists with views of Arundel, the SDNP and other points of interest that are of at least equal quality to those experienced by motorists on the existing A27. There would be a reduction in journey quality during the construction phase of the project due to increased delays, and the presence of temporary traffic management.	N/A	Slight positive.	N/A
	Accidents	There are accident benefits associated with the scheme which have been assessed using COBALT	N/A	N/A	£63.83m
	Security	Scheme introduces improved lighting and provides smooth traffic flow conditions across proposed A27 link, which is thought to improve perceptions of security in comparison to stop-start traffic conditions.		slight positive	N/A
	Access to services	Not assessed at this stage.	N/A	7 point Overall Assessment Score	N/A
	Affordability	Not assessed at this stage.	N/A	7 point Overall Assessment Score	N/A
	Severance	Scheme will significantly reduce volume of motor traffic passing along the existing A27. As such will reduce severance within conurbation of Arundel, with pedestrian, cycle and motor vehicle trips easier to make between locations to the north of Ford Road Roundabout and those to the south.	N/A	Slight Positive	N/A
	Option values	The scheme does not involve the loss or introduction of a new mode of transport and as such Option Values are unaffected.	N/A	N/A	N/A
Public Accounts	Cost to Broad Transport Budget	All costs are funded by central government. NPV of Local Government Costs £0 m NPV of Central Government Costs £213.756m		N/A	PVC £213.756m
	Indirect Tax Revenues	An increase in indirect tax revenues is observed as a result of the scheme. NPV of change in indirect tax revenues £4.417m		N/A	PVB £4.417m Indirect Tax Revenues against Public Accounts (i.e. sign needs to be flipped on the ITR TUBA output. Eg if a project results in an increase in indirect tax revenue, this would appear as a negative number in the PA table, but as a positive number in the AST).

Appendix N

ENVIRONMENTAL CONSTRAINTS PLAN

APPENDIX N-1

ENVIRONMENTAL CONSTRAINTS PLAN



1:25000

0 200 400 600 800 1000 1200 1400 1600 1800 2000m

Rev	Date	Description	By	Chk	App	Notes
P01.1	03/07/15	First Draft	CD	JL	RM	
P01.2	28/04/16	Symbolism and layers updated	CB	JL	RM	
P01.3	19/08/16	Option 5B Added	CD	JL	RM	

Please note: All the information shown on this map is publicly available and will need to be reviewed, and is not comprehensive



Client: **highways england**
driving forward

Project: **A27 ARUNDEL IMPROVEMENTS**

Title: **ARUNDEL ENVIRONMENTAL CONSTRAINTS PLAN**

Initial Status or WIP	
Drawn: CD	Checked: JL
Designed: JL	Approved: RM
Date: 19/08/16	Scale: 1:25000 A3 Sheet:
Drawing Number: 551523-PB-EGN-XX-PDF-EN-00001	Revision: P01.3

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Appendix O

ENGINEERING ASSESSMENT TABLE

Engineering Table: Summary of Options

OPTION REFERENCE	OPTION 0A	OPTION 0B	OPTION 0BA	OPTION 1	OPTION 2	OPTION 3	OPTION 4	OPTION 5	OPTION 5A	OPTION 5B
Description	Junction improvements only at Crossbush, Causeway and Ford Road - and a short section of realigned A27 near Arundel Station to facilitate building a new bridge	Online dualling (dual urban carriageway - D2UAP) with junction improvements and direct accesses in and out	Online dualling with junction improvements and direct access in and out <u>with short bypass section past Arundel Station</u>	Online D2UAP dualling with junction improvements up to Ford Road and then Dual rural all purpose carriageway (D2AP) south of Arundel Station up to Crossbush (retain EB c-way from Ford Rd to station)	Offline dualling on the outskirts of Arundel town with sinuous alignment, passing close to the existing A27 between Ford Road and Causeway and carrying on south of Arundel Station up to Crossbush	Offline route south of Arundel, crossing SDNP ancient woodland to the west and joining with existing A27 dual carriageway at Crossbush and a new grade separated junction west of Arundel near Havenwood caravan park	Offline route avoiding SDNP ancient woodland areas to the west and joining with existing A27 dual carriageway at Crossbush	Straightest offline route avoiding SDNP ancient woodland areas to the west and joining with existing A27 dual carriageway at Crossbush and a new grade separated junction near Yapton Lane	<u>Combination between Option 3 and Option 5 alignments, avoiding SDNP ancient woodland areas to the west and passing south of the Guest Houses on Priory lane along Ford Road, joining with existing A27 dual carriageway at Crossbush and a new grade separated junction near Yapton Lane</u>	Southernmost and longest offline route totally avoiding SDNP ancient woodland areas to the west and joining with existing A27 dual carriageway at Crossbush
Highway Type	Signalised junctions	D2UAP	D2UAP	D2UAP/D2AP	D2AP	D2AP	D2AP	D2AP	D2AP	D2AP
Speed Limit	as existing (40mph)	40mph	40mph	40mph/70mph	70mph	70mph	70mph	70mph	70mph	70mph
Length	junctions only + 200m	4.4km	4.3km	4.0km	4.9km	5.1km	6.85km	6.5km	6.45km	7.35km
Deliverable within current budget	yes	yes	yes	yes	not assessed	Most likely estimate marginally over budget	not assessed	not assessed	Over budget Most likely estimate marginally within budget	Most likely estimate over budget No - TBC but costs will be higher than Opt 5A
Horizontal geometry	as existing	as existing - sub standard	as existing - sub standard	as existing up to Ford Rd rbt then for the offline section - as per DMRB	sub standard	to DMRB standards	not assessed	to DMRB standards	to DMRB standards	to DMRB standards
Vertical profile geometry	as existing	as existing - steep profile between Crossbush and Causeway	as existing - steep profile between Crossbush and Causeway	as existing up to Ford Rd rbt then for the offline section - as per DMRB	not assessed	to DMRB standards	not assessed	to DMRB standards	to DMRB standards	to DMRB standards
Departures from Standards required	N/A (TD50/04 applicable)	yes - sub standard horizontal and vertical geometry	yes - sub standard horizontal geometry	only for the section following existing A27 up to Ford Road	not assessed	no	not assessed	1 step below DM for last horizontal radius at the western tie-in	1 step below DM for last horizontal radius at the west tie-in	1 step below DM for last horiz radius at the west tie-in
Direct access required/maintained	as existing	as existing	as existing; current road section past railway station to become a local off-slip on slip from the short new offline dual c-way	only for the section following existing A27 up to Ford Rd	not assessed	no	not assessed	no	no	no
kerbs/over the edge verge treatment	kerbs	kerbs	kerbs	kerbs for the online section/over the edge for the offline section	not assessed	over the edge	not assessed	over the edge	over the edge	over the edge
Gaps in CR/right turn lanes required	as existing	as existing	as existing	only for the section following existing A27 up to Ford Road	not assessed	no	not assessed	no	no	no
At grade pedestrian crossings required	yes	yes	yes	only for the section following existing A27 up to Ford Road	not assessed	no	not assessed	no	no	no

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