

A2 Bean and Ebbsfleet junction improvements

Environmental Assessment Report
Volume 2 – Figures



A2 Bean and Ebbsfleet Junction Improvements

Environmental Assessment Report (EAR)

Volume 2

Figures

Contents:

PART 1

- 1.1 Location Plan
- 2.1 Scheme Option Layout - Bean Junction Option 3
- 2.2 Scheme Option Layout - Bean Junction Option 4b
- 2.3 Scheme Option Layout - Bean Junction Option 5
- 2.4 Scheme Option Layout- Ebbsfleet Junction Option 1b
- 4.1 Cumulative Assessment
- 5.1 Statutory and Non-Statutory Wildlife Sites
- 5.2 Phase 1 Habitat Survey Map

PART 2

- 5.3 Ecological Constraints Map
- 6.1 Environmental Designations
- 6.2 Access Land and Public Rights of Way
- 6.3 Topography Map
- 6.4 National Character areas

6.5 Regional Landscape Character Areas

6.6 Local Landscape Character Areas

PART 3

6.7 Zone of Theoretical Visibility

6.8 Potential Viewpoint Location

6.9 Photosheets 2x

7.1 Air Quality Baseline

PART 4

7.2 Bean Option 3 Study Area

7.3 Bean Option 4b Study Area

7.4 Bean Option 5 Study Area

8.1 Noise Important Areas within the Study Area

9.1 Statutory and Non-Statutory Cultural Heritage Assets at Bean Option 3

9.2 Statutory and Non-Statutory Cultural Heritage Assets at Bean Option 4b

9.3 Statutory and Non-Statutory Cultural Heritage Assets at Bean Option 5

9.4 Statutory and Non-Statutory Cultural Heritage Assets at Ebbsfleet Option 1b

PART 5

10.1 Superficial deposits Geology plan

10.2 Solid Geology plan

10.3 Superficial Aquifer designations

10.4 Bedrock Aquifer designations

10.5 Source Protection Zones

10.6 Aquifer Vulnerability

10.7 Contaminative Land Uses

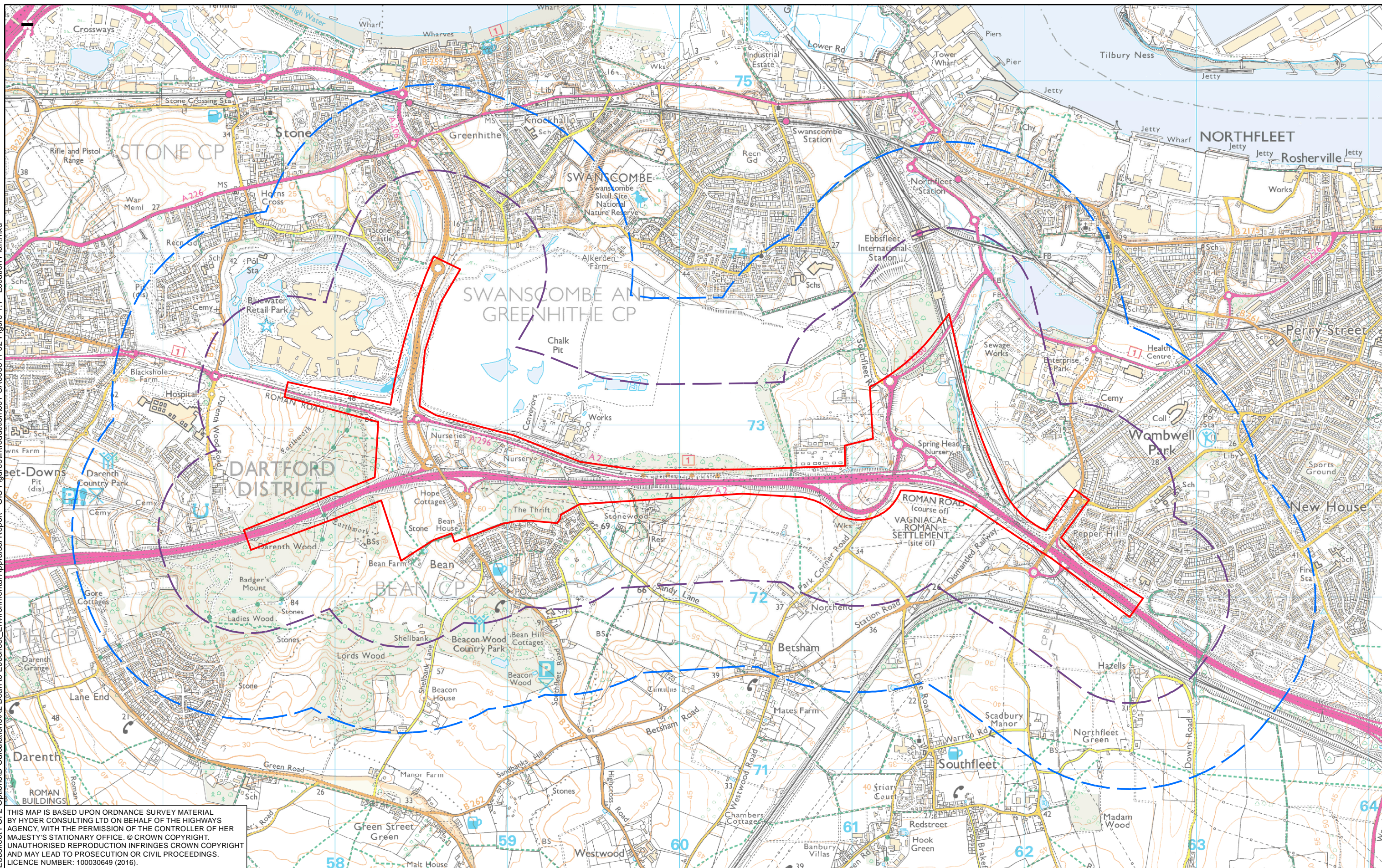
PART 6

10.8 Surface water features

10.9 Existing Drainage

- 11.1 Study Area
- 11.2 Community Facilities
- 11.3 Residential Properties
- 11.4 Commercial Properties - Bean
- 11.5 Commercial Properties - Ebbsfleet
- 11.6 Public Rights of Way
- 11.7 Development Land
- 11.8 Agricultural Land

Path: K:\GIS\A2 Bean to Ebbsfleet Environmental Appraisal Report - GIS Figures\Introduction\001-UA006811-02-Figure 1.1 - Location Plan.mxd



THIS MAP IS BASED UPON ORDNANCE SURVEY MATERIAL BY HYDER CONSULTING LTD ON BEHALF OF THE HIGHWAYS AGENCY, WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONARY OFFICE. © CROWN COPYRIGHT. UNAUTHORISED REPRODUCTION INFRINGES CROWN COPYRIGHT AND MAY LEAD TO PROSECUTION OR CIVIL PROCEEDINGS. LICENCE NUMBER: 100030649 (2016).

0 0.5 1 Kilometers		
P02	02/09/2016	FINAL
P01	25/08/2016	FINAL DRAFT FOR APPROVAL
Rev	Rev. Date	Purpose of revision

SD	GS	NM
Drawn	Checked	Apprv'd

KEY
 SCHEME LIMIT
 STUDY AREA, 500M OFFSET
 STUDY AREA, 1000M OFFSET

highways
england

Halcrow Hyder Joint Venture

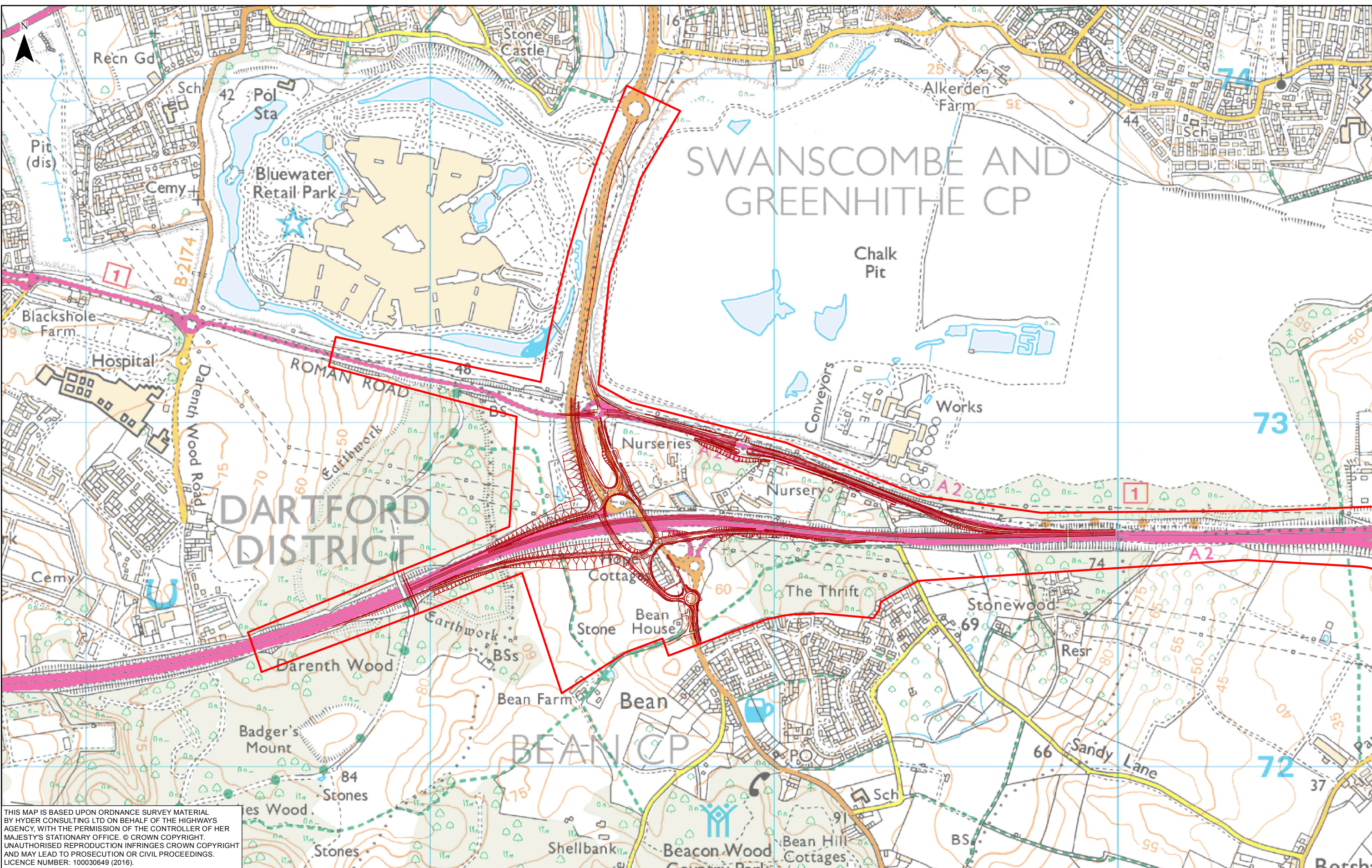
Burdens Park
Swindon, SN4 0QD
Tel. +44(0)1793 812479

Halcrow **Hyder**

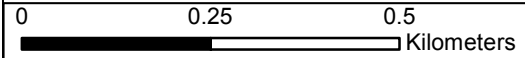
Project	A2 BEAN AND EBBSFLEET JUNCTION IMPROVEMENTS
Drawing title	FIGURE 1.1 LOCATION PLAN

Status	FINAL	Revision	P02
Scale	1:20,000	Date	02/09/2016
Drawn By	SD		
Checked By	GS		
Approved By	NM		
Project No.	HA543917	Originator	HHJV
Original Size			A3
Drawing number	HA543917-HHJV-EGN-ZZZZ-GIS-EN-0001		

Path: \\hc-ukr-mu-fs-01\1MU_Proj\GIS\A2_Bean to Ebbfleet_PCF2_Options\Calculations\A2_Bean to Ebbfleet_Environmental Appraisal Report - GIS Figures\The Project\001-UA006811-02_Fig 2.1 Scheme Option Layout - Bean Junction Option 3.mxd



THIS MAP IS BASED UPON ORDNANCE SURVEY MATERIAL BY HYDER CONSULTING LTD ON BEHALF OF THE HIGHWAYS AGENCY, WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONARY OFFICE. © CROWN COPYRIGHT. UNAUTHORISED REPRODUCTION INFRINGES CROWN COPYRIGHT AND MAY LEAD TO PROSECUTION OR CIVIL PROCEEDINGS. LICENCE NUMBER: 100030649 (2016).



KEY

	SCHEME LIMIT
	BEAN OPTION 3

Rev	Rev. Date	Purpose of revision	Drawn	Checked	Apprv'd
P02	16/11/2016	FINAL	SD	GS	NM
P01	19/08/2016	FINAL DRAFT FOR APPROVAL	SD	GS	NM

highways
england

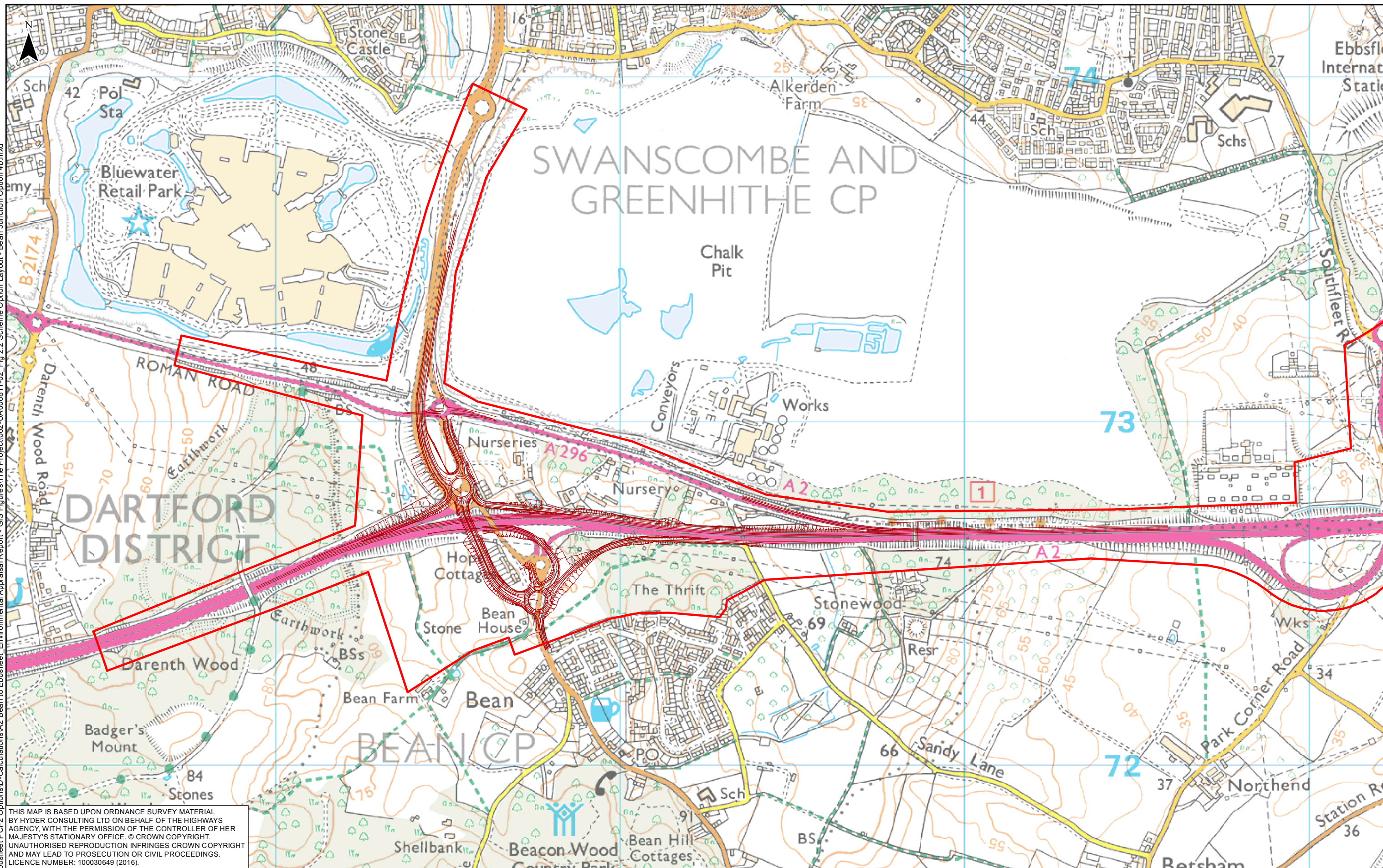
Halcrow Hyder Joint Venture
Burdorpe Park
Swindon, SN4 0OD
Tel. +44(0)1793 812479

Project: A2 BEAN AND EBBSFLEET JUNCTION IMPROVEMENTS

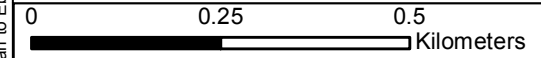
Drawing title: **FIGURE 2.1**
SCHEME OPTION LAYOUT
BEAN JUNCTION OPTION 3

Status	FINAL	Revision	P02
Scale	1:10,000	Date	16/11/2016
Drawn By	SD		
Checked By	GS		
Approved By	NM		
Project No.	HA543917	Originator	HHJV
Original Size			A3
Drawing number	HA543917-HHJV-EGN-ZZZZ-GIS-EN-0002		

Path: I:\GIS\A2 Bean to Ebbsfleet\PCF2 Options\A2 Bean to Ebbsfleet Environmental Appraisal Report - GIS Figures\The Project\002-UA006811-02_Fig 2.2 Scheme Option Layout - Bean Junction Option 4b.mxd



THIS MAP IS BASED UPON ORDNANCE SURVEY MATERIAL BY HYDER CONSULTING LTD ON BEHALF OF THE HIGHWAYS AGENCY, WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONARY OFFICE. © CROWN COPYRIGHT. UNAUTHORISED REPRODUCTION INFRINGES CROWN COPYRIGHT AND MAY LEAD TO PROSECUTION OR CIVIL PROCEEDINGS. LICENCE NUMBER: 100030649 (2016).



Rev	Rev. Date	Purpose of revision	Drawn	Checked	Appr'd
P02	02/09/2016	FINAL	SD	GS	NM
P01	26/08/2016	FINAL DRAFT FOR APPROVAL	SD	GS	NM

KEY
 SCHEME LIMIT
 BEAN OPTION 4B

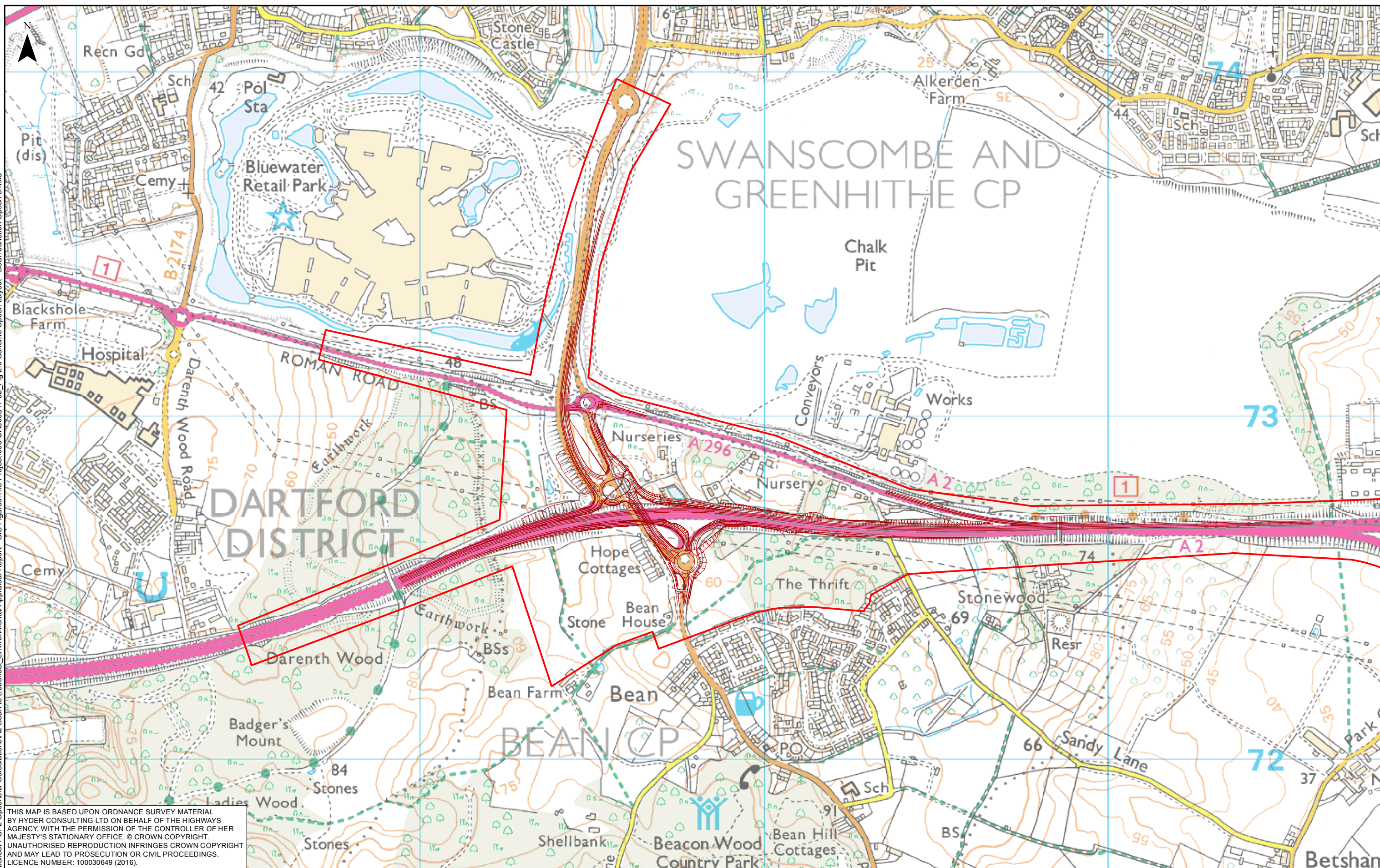
highways
england

Halcrow Hyder Joint Venture
 Burderop Park
 Swindon, SN4 0QD
 Tel. +44(0)1793 812479

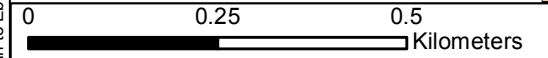
Project	A2 BEAN AND EBBSFLEET JUNCTION IMPROVEMENTS
Drawing title	FIGURE 2.2 SCHEME OPTION LAYOUT BEAN JUNCTION OPTION 4B

Status	FINAL	Revision	P02
Scale	1:10,000	Date	02/09/2016
Drawn By	SD		
Checked By	GS		
Approved By	NM		
Project No.	HA543917	Originator	HHJV
Original Size			A3
Drawing number	HA543917-HHJV-EGN-ZZZZ-GIS-EN-0003		

Path: I:\GIS\A2 Bean to Ebbsfleet Options\Calculations\A2 Bean to Ebbsfleet Environmental Appraisal Report - GIS Figures\The Project\003-UA006811-02_Fig 2.3 Scheme Option Layout - Bean Junction Option 5.mxd



THIS MAP IS BASED UPON ORDNANCE SURVEY MATERIAL BY HYDER CONSULTING LTD ON BEHALF OF THE HIGHWAYS AGENCY, WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONARY OFFICE. © CROWN COPYRIGHT. UNAUTHORISED REPRODUCTION INFRINGES CROWN COPYRIGHT AND MAY LEAD TO PROSECUTION OR CIVIL PROCEEDINGS. LICENCE NUMBER: 100030649 (2016).



Rev	Rev. Date	Purpose of revision	Drawn	Checked	Appr'd
P02	02/09/2016	FINAL	SD	GS	NM
P01	19/08/2016	FINAL DRAFT FOR APPROVAL	SD	GS	NM

KEY	
	SCHEME LIMIT
	BEAN OPTION 5

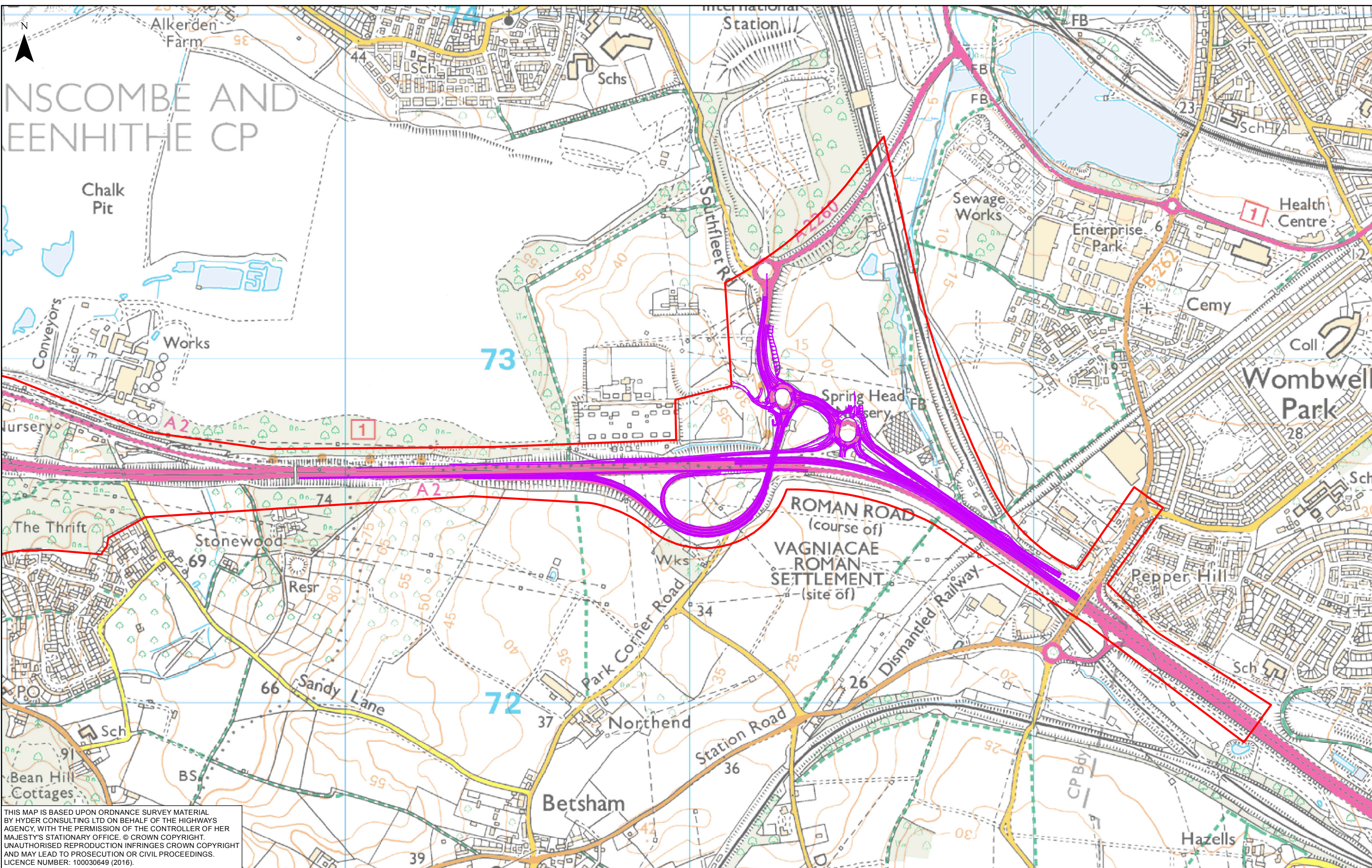
highways
england

Halcrow Hyder Joint Venture
Burdarop Park
Swindon, SN4 0QD
Tel. +44(0)1793 812479

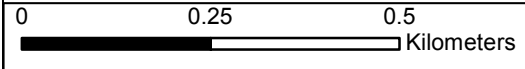
Project	A2 BEAN AND EBBSFLEET JUNCTION IMPROVEMENTS
Drawing title	FIGURE 2.3 SCHEME OPTION LAYOUT BEAN JUNCTION OPTION 5

Status	FINAL	Revision	P02
Scale	1:10,000	Date	02/09/2016
Drawn By	SD	Checked By	GS
Approved By	NM	Project No.	HA543917
Originator	HHJV	Original Size	A3
Drawing number	HA543917-HHJV-EGN-ZZZZ-GIS-EN-0004		

Path: \\hcr\ukr\mu-fs-01\MMU_Proj\GIS\A2_Bean_to_Ebbsfleet_PCF2_Options\A2_Bean_to_Ebbsfleet_Environmental Appraisal_Report - GIS_Figures\The Project\004-UA006811-02_Fig 2.4_Scheme Option Layout - Ebbsfleet Junction Option 1b.mxd



THIS MAP IS BASED UPON ORDNANCE SURVEY MATERIAL BY HYDER CONSULTING LTD ON BEHALF OF THE HIGHWAYS AGENCY, WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONARY OFFICE. © CROWN COPYRIGHT. UNAUTHORISED REPRODUCTION INFRINGES CROWN COPYRIGHT AND MAY LEAD TO PROSECUTION OR CIVIL PROCEEDINGS. LICENCE NUMBER: 100030649 (2016).



Rev	Rev. Date	Purpose of revision	Drawn	Checked	Apprv'd
P02	16/11/2016	FINAL	SD	GS	NM
P01	19/08/2016	FINAL DRAFT FOR APPROVAL	SD	GS	NM

KEY	
	SCHEME LIMIT
	EBBSFLEET OPTION 1B

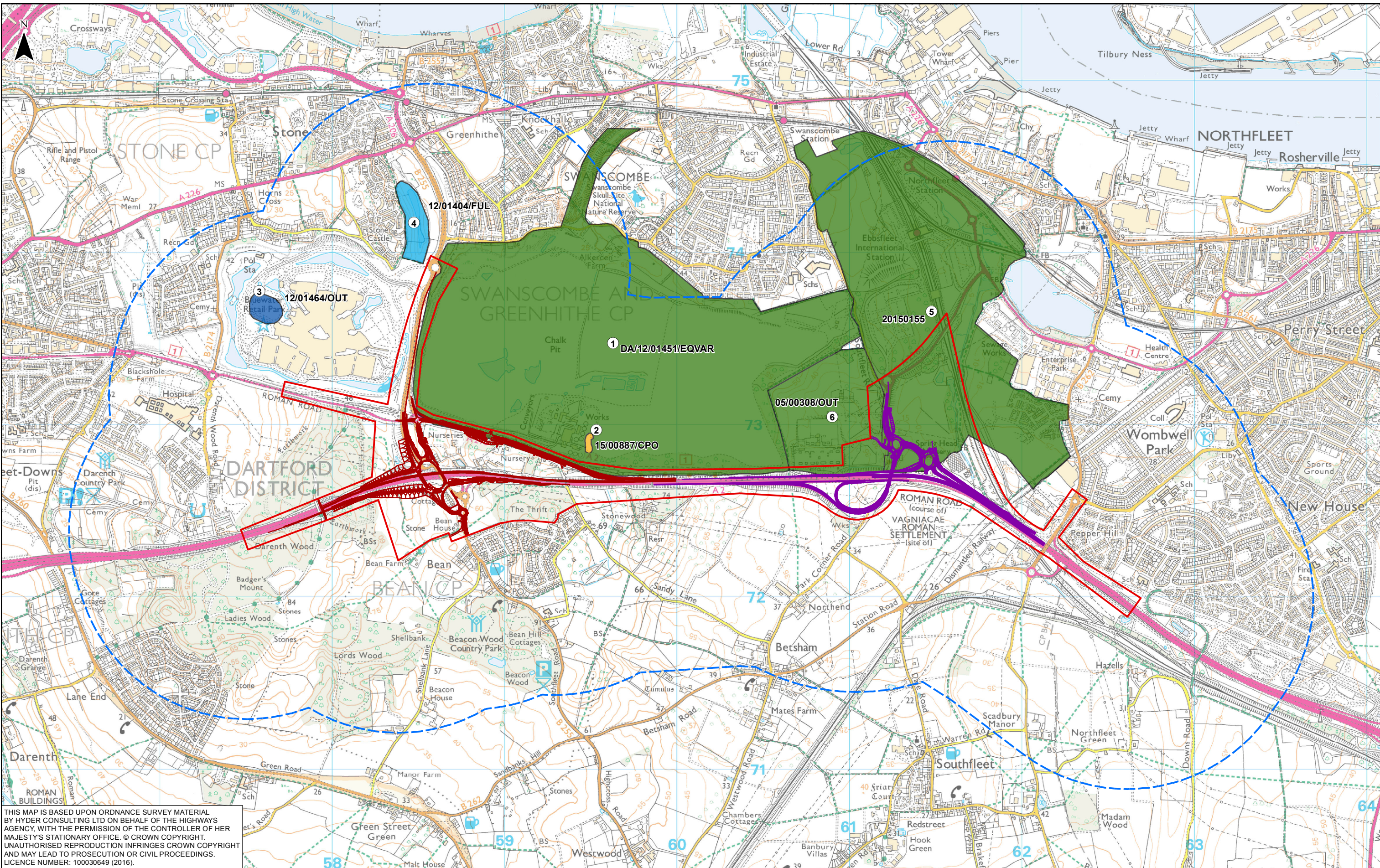
highways
england

Halcrow Hyder Joint Venture
Burdorpe Park
Swindon, SN4 0OD
Tel. +44(0)1793 812479

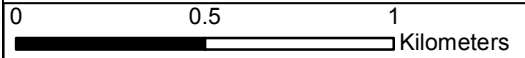
Project: A2 BEAN AND EBBSFLEET JUNCTION IMPROVEMENTS

Drawing title: **FIGURE 2.4**
SCHEME OPTION LAYOUT
EBBSFLEET JUNCTION OPTION 1B

Status	FINAL	Revision	P02
Scale	1:10,000	Date	16/11/2016
Drawn By	SD		
Checked By	GS		
Approved By	NM		
Project No.	HA543917	Originator	HHJV
Original Size			A3
Drawing number	HA543917-HHJV-EGN-ZZZZ-GIS-EN-0005		



THIS MAP IS BASED UPON ORDNANCE SURVEY MATERIAL BY HYDER CONSULTING LTD ON BEHALF OF THE HIGHWAYS AGENCY, WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONARY OFFICE. © CROWN COPYRIGHT. UNAUTHORISED REPRODUCTION INFRINGES CROWN COPYRIGHT AND MAY LEAD TO PROSECUTION OR CIVIL PROCEEDINGS. LICENCE NUMBER: 100030649 (2016).



KEY	
	SCHEME LIMIT
	STUDY AREA, 1000M OFFSET
	EBBSFLEET OPTION 1B
	BEAN OPTION 3
	MIXED USE DEVELOPMENT
	SERVICES
	RESIDENTIAL
	COMMERCIAL

Rev	Rev. Date	Purpose of revision	Drawn	Checked	Appr'd
P02	23/11/2016	FINAL	SD	GS	NM
P01	25/08/2016	FINAL DRAFT FOR APPROVAL	SD	GS	NM

highways
england

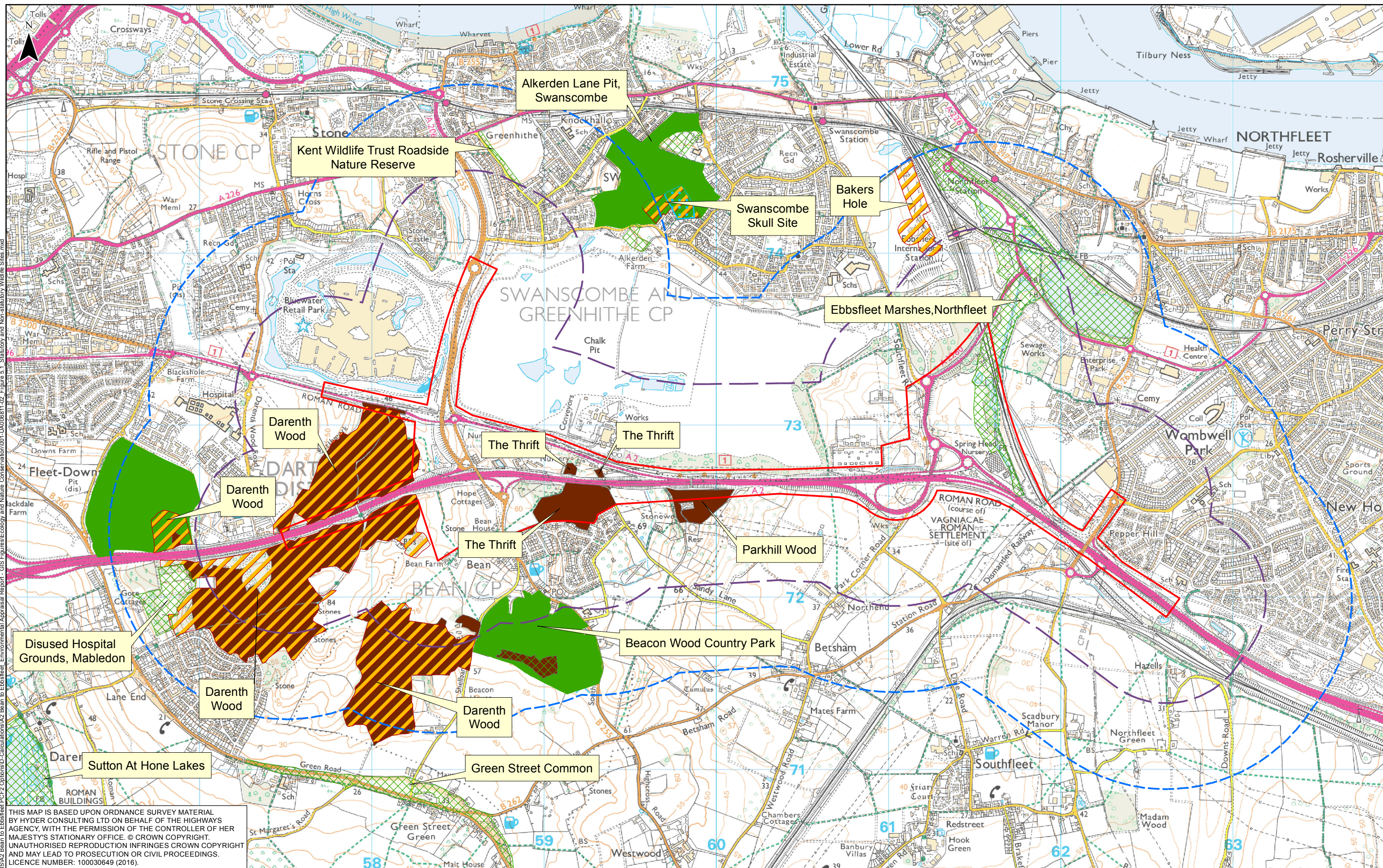
Halcrow Hyder Joint Venture
Burdrop Park
Swindon, SN4 0DD
Tel. +44(0)1793 812479

Project: A2 BEAN AND EBBSFLEET JUNCTION IMPROVEMENTS

Drawing title: **FIGURE 4.1 CUMULATIVE ASSESSMENT**

Status	FINAL	Revision	P02
Scale	1:20,000	Date	23/11/2016
Drawn By	SD	Checked By	GS
Approved By	NM	Project No.	HA543917
Project No.	HA543917	Originator	HHJV
Original Size	A3	Drawing number	HA543917-HHJV-EGN-ZZZZ-GIS-EN-0006

Path: \\c:\uk\m\5-01\MU_Proj\GIS\A2_Bean_to_Ebbsfleet_Environmental_Assessment\Technology\001_UA006811-02_Fig 4.1_CUMULATIVE ASSESSMENT.mxd



THIS MAP IS BASED UPON ORDNANCE SURVEY MATERIAL BY HYDER CONSULTING LTD ON BEHALF OF THE HIGHWAYS AGENCY, WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONARY OFFICE. © CROWN COPYRIGHT. UNAUTHORISED REPRODUCTION INFRINGES CROWN COPYRIGHT AND MAY LEAD TO PROSECUTION OR CIVIL PROCEEDINGS. LICENCE NUMBER: 100030649 (2016).

0	0.5	1	Kilometers		
P02	24/11/2016	FINAL	SD	GS	NM
P01	25/08/2016	FINAL DRAFT FOR APPROVAL	SD	GS	NM
Rev	Rev. Date	Purpose of revision	Drawn	Checked	Appr'd

	SCHEME LIMIT		NATIONAL NATURE RESERVE (NNR)
	STUDY AREA, 500M OFFSET		SITE OF SPECIAL SCIENTIFIC INTEREST (SSSI)
	STUDY AREA, 1000M OFFSET		ANCIENT WOODLAND
	LOCAL WILDLIFE SITE (LWS)		COUNTRY PARK

highways
england

Halcrow Hyder Joint Venture

Burdrops Park
Swindon, SN4 0DD
Tel. +44(0)1793 812479

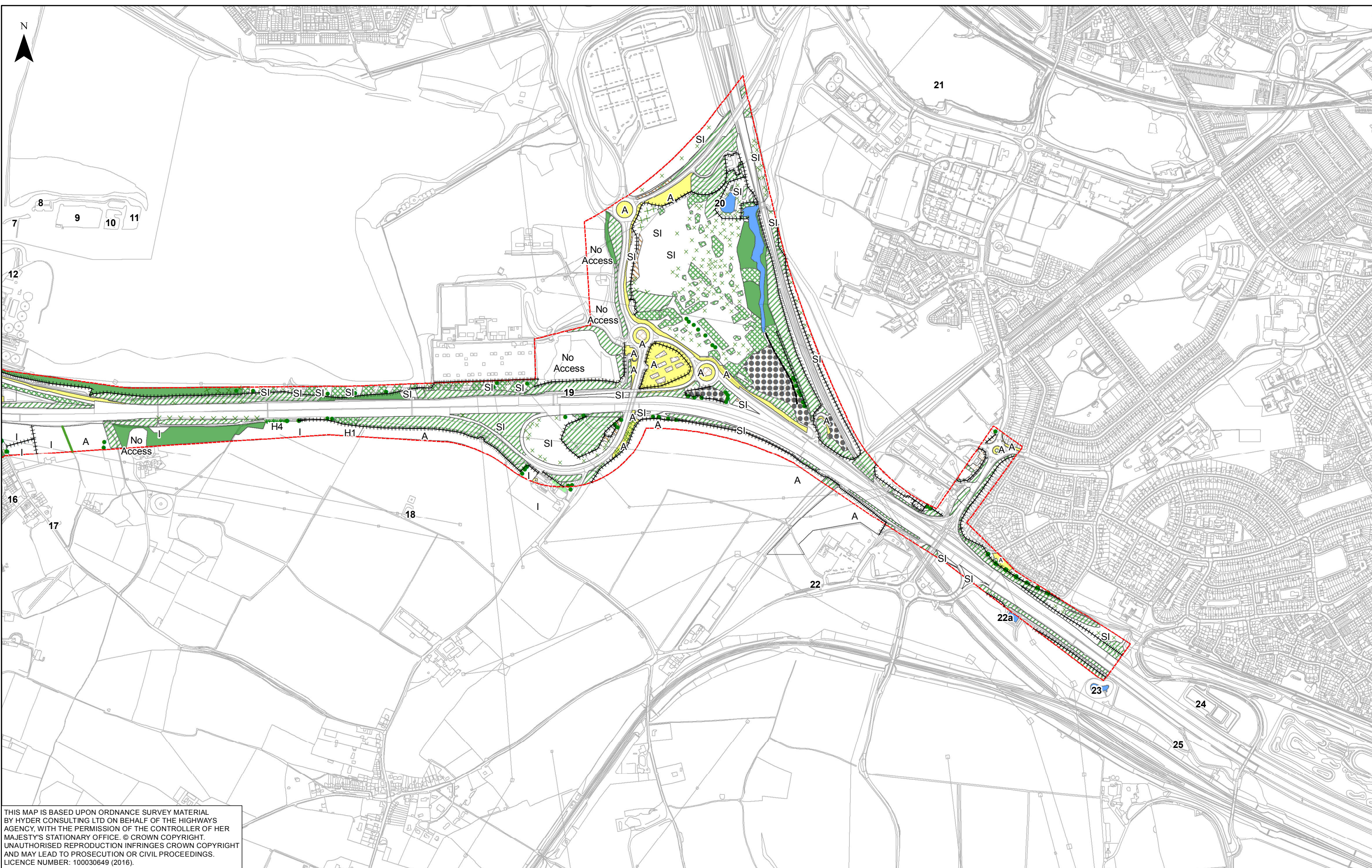
Halcrow **Hyder**

Project	A2 BEAN AND EBBSFLEET JUNCTION IMPROVEMENTS
Drawing title	FIGURE 5.1 STATUTORY AND NON-STATUTORY WILDLIFE SITES

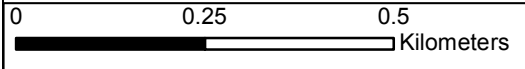
Status	FINAL	Revision	P02
Scale	1:20,000	Date	24/11/2016
Drawn By	SD	Checked By	GS
Approved By	NM	Project No.	HA543917
Originator	HHJV	Original Size	A3
Drawing number	HA543917-HHJV-EGN-ZZZZ-GIS-EN-0007		

Path: \\c:\uk\m\h\01\MU_Proj\GIS\A2_Bean_to_Ebbsfleet_PC22_OptionsD_Calculations\A2_Bean_to_Ebbsfleet_EnvironmentalAppraisal_Report - GIS_Figures\Ecology and Nature Conservation\01-LA00811-02_Figure 5.1_Statutory and Non-Statutory Wildlife Sites.mxd

Path: \\hcr\ukr\mu-fs-01\MU_Proj\GIS\A2_Bean_to_Ebbsfleet_PCF2_Options\D-Calculations\A2_Bean_to_Ebbsfleet_Environmental_Appraisal_Report_-_GIS_Figures\Ecology_and_Nature_Conservation\002-UA006811-02_Figure_5.2_Phase_1_Habitat_Survey_Map-East.mxd



THIS MAP IS BASED UPON ORDNANCE SURVEY MATERIAL BY HYDER CONSULTING LTD ON BEHALF OF THE HIGHWAYS AGENCY, WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONARY OFFICE. © CROWN COPYRIGHT. UNAUTHORISED REPRODUCTION INFRINGES CROWN COPYRIGHT AND MAY LEAD TO PROSECUTION OR CIVIL PROCEEDINGS. LICENCE NUMBER: 100030649 (2016).



Rev	Rev. Date	Purpose of revision	Drawn	Checked	Apprv'd
P02	16/11/2016	FINAL	SD	GS	NM
P01	25/08/2016	FINAL DRAFT FOR APPROVAL	SD	GS	NM

KEY	
	Scheme Limit
	Scrub - scattered
	Broadleaved Parkland/scattered trees
	Coniferous Parkland/scattered trees
	Intact hedge - species-poor
	Hedge with trees - native species-rich
	Fence
	Footpath
	Broadleaved woodland - semi-natural
	Broadleaved woodland - plantation
	Scrub - dense/continuous
	Scrub - scattered
	Improved grassland
	Poor semi-improved grassland
	Other tall herb and fern - ruderal
	Standing water
	Cultivated/disturbed land - arable
	Cultivated/disturbed land - amenity grassland
	Introduced shrub
	Bare ground
	H1 Hedge
	H/S Hard Standing
	22 Pond Number

highways
england

Halcrow Hyder Joint Venture

Burdorop Park
Swindon, SN4 0QD
Tel. +44(0)1793 812479

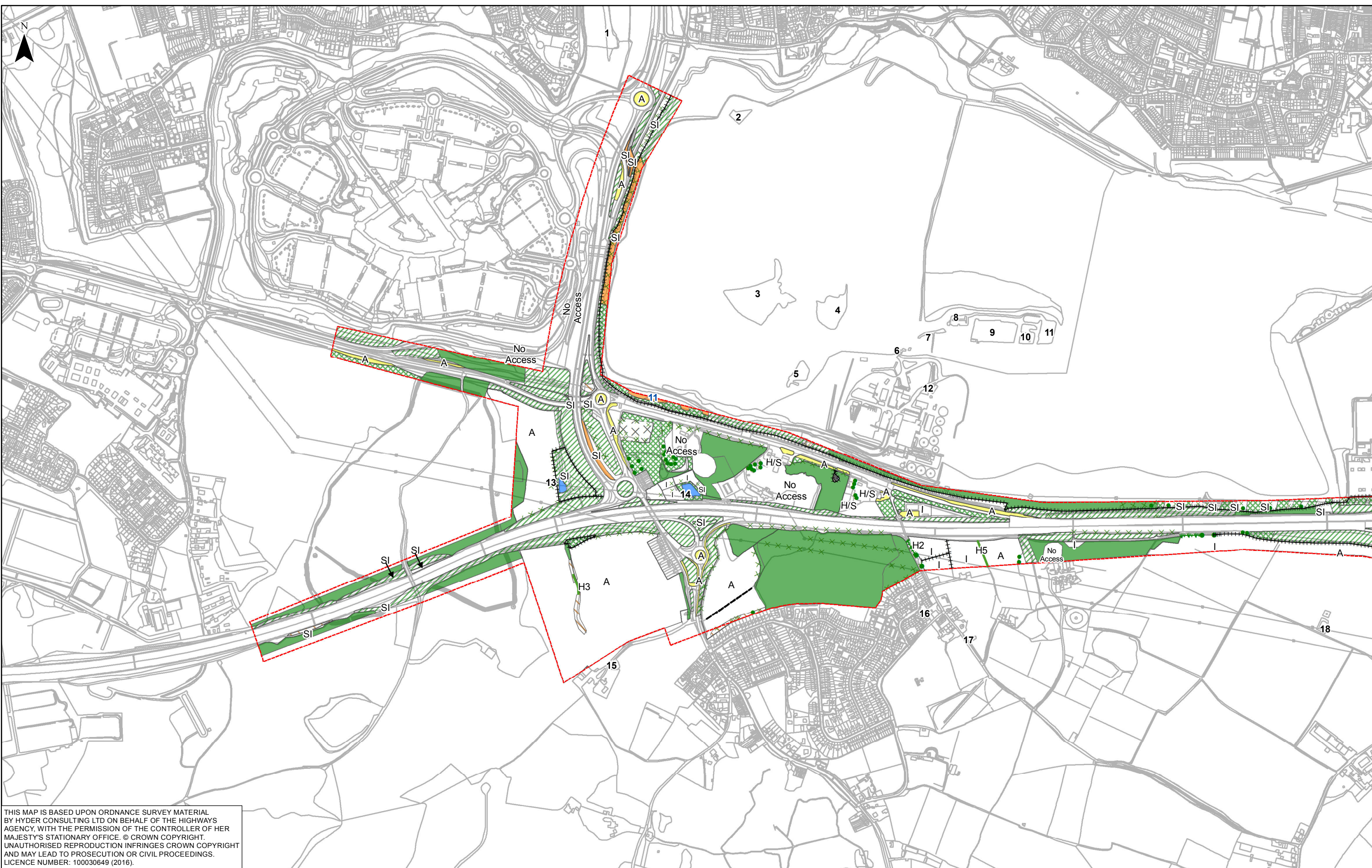
Halcrow **Hyder**

Project: **A2 BEAN AND EBBSFLEET JUNCTION IMPROVEMENTS**

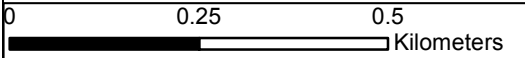
Drawing title: **FIGURE 5.2 PHASE 1 HABITAT SURVEY MAP EBBSFLEET OPTION 1B**

Status	Revision
FINAL	P02
Scale: 1:10,000	Date: 16/11/2016
Drawn By: SD	Checked By: GS
Approved By: NM	Project No.: HA543917
Originator: HHJV	Original Size: A3
Drawing number: HA543917-HHJV-EGN-ZZZZ-GIS-EN-0008	

Path: \\hc-ukr-mu-01\1MU_Proj\GIS\A2 Bean to Ebbsfleet_PCF2 Options\A2 Bean to Ebbsfleet_Ecology and Nature Conservation\02-UA006811-02_Figure 5.2-Phase 1 Habitat Survey Map-West.mxd



THIS MAP IS BASED UPON ORDNANCE SURVEY MATERIAL BY HYDER CONSULTING LTD ON BEHALF OF THE HIGHWAYS AGENCY, WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONARY OFFICE. © CROWN COPYRIGHT. UNAUTHORISED REPRODUCTION INFRINGES CROWN COPYRIGHT AND MAY LEAD TO PROSECUTION OR CIVIL PROCEEDINGS. LICENCE NUMBER: 100030649 (2016).



Rev	Rev. Date	Purpose of revision	Drawn	Checked	Appr'd
P02	16/11/2016	FINAL	SD	GS	NM
P01	25/08/2016	FINAL DRAFT FOR APPROVAL	SD	GS	NM

KEY	
[Red dashed line]	Scheme Limit
[Green hatched]	Broadleaved woodland - semi-natural
[Green with 'x']	Scrub - scattered
[Green with 'x']	Broadleaved Parkland/scattered trees
[Green with 'x']	Intact hedge - species-poor
[Green with 'x']	Hedge with trees - native species-rich
[Green with 'x']	Fence
[Green with 'x']	Footpath
[Green with 'x']	Other tall herb and fern - ruderal
[Blue]	Standing water
[Green with 'x']	Cultivated/disturbed land - arable
[Green with 'x']	Cultivated/disturbed land - amenity grassland
[Green with 'x']	Cultivated/disturbed land - ephemeral/short perennial
[Green with 'x']	Introduced shrub
[Green with 'x']	Bare ground
[Green with 'x']	H1 Hedge
[Green with 'x']	H/S Hard Standing
[Green with 'x']	22 Pond Number

highways england

Halcrow Hyder Joint Venture

Burdorop Park
Swindon, SN4 0QD
Tel. +44(0)1793 812479

Halcrow **Hyder**

Project: A2 BEAN AND EBBSFLEET JUNCTION IMPROVEMENTS

Drawing title: **FIGURE 5.2 PHASE 1 HABITAT SURVEY MAP BEAN OPTION 3**

Scale	1:10,000 <th>Date</th> <td>16/11/2016 </td>	Date	16/11/2016
Drawn By	SD	Checked By	GS
Approved By	NM	Project No.	HA543917
Originator	HHJV	Original Size	A3
Drawing number	HA543917-HHJV-EGN-ZZZZ-GIS-EN-0008		