



# Lower Thames Crossing

## 7.16 Community Impact Report (Clean version - part 2 of 4)

APFP Regulation 5(2)(q)

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

Volume 7

**DATE: August 2023**  
**DEADLINE: 2**

Planning Inspectorate Scheme Ref: TR010032  
Application Document Ref: TR010032/APP/7.16

**VERSION:** 2.0

## Revision history

Version	Date	Submitted at
1.0	31 October 2022	DCO Application
2.0	3 August 2023	Examination (Deadline 2)

# Lower Thames Crossing

## 7.16 Community Impact Report (Clean version)

### List of contents

	Page number
<b>1 Executive summary.....</b>	<b>1</b>
<b>2 Introduction .....</b>	<b>2</b>
2.1 Purpose of the document.....	2
2.2 Project overview .....	2
<b>3 How this document is structured.....</b>	<b>7</b>
3.1 Chapters in this report .....	7
3.2 Communities in the immediate area .....	8
3.3 Communities in the wider area .....	9
3.4 Matching wards to operational sections.....	10
<b>4 Construction overview.....</b>	<b>12</b>
4.1 Description of construction activities .....	12
4.2 Overview of construction compounds .....	12
4.3 Traffic management.....	14
4.4 Phasing and duration.....	14
4.5 Project-wide construction mitigation .....	15
<b>5 Operation overview.....</b>	<b>17</b>
5.1 Key elements .....	17
5.2 Project benefits .....	17
<b>6 Communities in the immediate area.....</b>	<b>20</b>
6.1 Shorne, Cobham and Luddesdown ward.....	20
6.2 Higham ward.....	44
6.3 Singlewell ward.....	56
6.4 Riverview ward .....	70
6.5 Westcourt ward.....	83
6.6 Chalk ward.....	96
6.7 East Tilbury ward .....	108
6.8 Tilbury Riverside and Thurrock Park ward .....	132
6.9 Tilbury St Chads ward .....	147
6.10 Chadwell St Mary ward .....	160

6.11	Little Thurrock Blackshots ward .....	178
6.12	Stifford Clays ward.....	191
6.13	Orsett ward .....	203
6.14	Belhus ward .....	238
6.15	Ockendon ward.....	247
6.16	Upminster ward.....	264
6.17	Cranham ward .....	284
6.18	Warley and South Weald wards.....	298
<b>7</b>	<b>Communities in the wider area .....</b>	<b>313</b>
7.1	Medway .....	313
7.2	Gravesham .....	320
7.3	Dartford.....	333
7.4	Thurrock .....	339
7.5	Havering .....	349
<b>8</b>	<b>Monitoring.....</b>	<b>355</b>
8.1	Project-wide monitoring proposals.....	355
<b>References .....</b>	<b>359</b>	
<b>Glossary .....</b>	<b>360</b>	
<b>Appendices .....</b>	<b>425</b>	
<b>Appendix A Traffic Change Maps.....</b>	<b>426</b>	
<b>Appendix B Accessibility Maps.....</b>	<b>571</b>	
<b>Appendix C Figures .....</b>	<b>668</b>	

## List of plates

	Page number
Plate 2.1 Lower Thames Crossing route.....	4
Plate 6.1 Location of Shorne, Cobham and Luddesdown ward .....	20
Plate 6.2 Location of Higham ward .....	44
Plate 6.3 Location of Singlewell ward .....	56
Plate 6.4 Location of Riverview ward.....	70
Plate 6.5 Location of Westcourt ward .....	83
Plate 6.6 Location of Chalk ward .....	96
Plate 6.7 Location of East Tilbury ward .....	108
Plate 6.8 Location of Tilbury Riverside and Thurrock Park ward .....	132
Plate 6.9 Location of Tilbury St Chads ward .....	147
Plate 6.10 Location of Chadwell St Mary ward .....	160
Plate 6.11 Location of Little Thurrock Blackshots ward .....	178
Plate 6.12 Location of Stifford Clays ward .....	191
Plate 6.13 Location of Orsett ward.....	203
Plate 6.14 Location of Belhus ward .....	238
Plate 6.15 Location of Ockendon ward .....	247
Plate 6.16 Location of Upminster ward .....	264
Plate 6.17 Location of Cranham ward.....	284
Plate 6.18 Location of Warley ward .....	298
Plate 6.19 Location of South Weald ward .....	298
Plate 7.1 Location of communities in the wider area: Medway .....	313
Plate 7.2 Location of communities in the wider area: Gravesham .....	320
Plate 7.3 Location of communities in the wider area: Dartford.....	333
Plate 7.4 Location of communities in the wider area: Thurrock (western wards) .....	339
Plate 7.5 Location of communities in the wider area: Thurrock (eastern wards).....	339
Plate 7.6 Location of communities in the wider area: Havering .....	349
Plate A.1 AM peak actual change in Shorne, Cobham and Luddesdown.....	427
Plate A.2 AM peak percentage change in Shorne, Cobham and Luddesdown .....	428
Plate A.3 Interpeak actual change in Shorne, Cobham and Luddesdown .....	429
Plate A.4 Interpeak percentage change in Shorne, Cobham and Luddesdown.....	430
Plate A.5 PM actual change in Shorne, Cobham and Luddesdown.....	431
Plate A.6 PM percentage change in Shorne, Cobham and Luddesdown .....	432
Plate A.7 AM peak actual change in Higham.....	433
Plate A.8 AM peak percentage change in Higham .....	434
Plate A.9 Interpeak actual change in Higham .....	435
Plate A.10 Interpeak percentage change in Higham.....	436
Plate A.11 PM actual change in Higham .....	437
Plate A.12 PM percentage change in Higham .....	438
Plate A.13 AM peak actual change in Singlewell .....	439
Plate A.14 AM peak percentage change in Singlewell.....	440

Plate A.15 Interpeak actual change in Singlewell .....	441
Plate A.16 Interpeak percentage change in Singlewell.....	442
Plate A.17 PM actual change in Singlewell.....	443
Plate A.18 PM percentage change in Singlewell .....	444
Plate A.19 AM peak actual change in Riverview.....	445
Plate A.20 AM peak percentage change in Riverview .....	446
Plate A.21 Interpeak actual change in Riverview.....	447
Plate A.22 Interpeak percentage change in Riverview .....	448
Plate A.23 PM actual change in Riverview .....	449
Plate A.24 PM percentage change in Riverview .....	450
Plate A.25 AM peak actual change in Westcourt.....	451
Plate A.26 AM peak percentage change in Westcourt.....	452
Plate A.27 Interpeak actual change in Westcourt .....	453
Plate A.28 Interpeak percentage change in Westcourt.....	454
Plate A.29 PM actual change in Westcourt.....	455
Plate A.30 PM percentage change in Westcourt .....	456
Plate A.31 AM peak actual change in Chalk.....	457
Plate A.32 AM peak percentage change in Chalk.....	458
Plate A.33 Interpeak actual change in Chalk .....	459
Plate A.34 Interpeak percentage change in Chalk.....	460
Plate A.35 PM actual change in Chalk.....	461
Plate A.36 PM percentage change in Chalk .....	462
Plate A.37 AM peak actual change in East Tilbury .....	463
Plate A.38 AM peak percentage change in East Tilbury .....	464
Plate A.39 Interpeak actual change in East Tilbury .....	465
Plate A.40 Interpeak percentage change in East Tilbury .....	466
Plate A.41 PM actual change in East Tilbury .....	467
Plate A.42 PM percentage change in East Tilbury.....	468
Plate A.43 AM peak actual change in Tilbury Riverside and Thurrock Park .....	469
Plate A.44 AM peak percentage change in Tilbury Riverside and Thurrock Park.....	470
Plate A.45 Interpeak actual change in Tilbury Riverside and Thurrock Park .....	471
Plate A.46 Interpeak percentage change in Tilbury Riverside and Thurrock Park .....	472
Plate A.47 PM actual change in Tilbury Riverside and Thurrock Park.....	473
Plate A.48 PM percentage change in Tilbury Riverside and Thurrock Park .....	474
Plate A.49 AM peak actual change in Tilbury St Chads.....	475
Plate A.50 AM peak percentage change Tilbury St Chads .....	476
Plate A.51 Interpeak actual change Tilbury St Chads.....	477
Plate A.52 Interpeak percentage change Tilbury St Chads .....	478
Plate A.53 PM actual change Tilbury St Chads .....	479
Plate A.54 PM percentage change Tilbury St Chads.....	480
Plate A.55 AM peak actual change in Chadwell St Mary .....	481
Plate A.56 AM peak percentage change in Chadwell St Mary .....	482
Plate A.57 Interpeak actual change in Chadwell St Mary .....	483
Plate A.58 Interpeak percentage change in Chadwell St Mary .....	484

Plate A.59 PM actual change in Chadwell St Mary.....	485
Plate A.60 PM percentage change in Chadwell St Mary .....	486
Plate A.61 AM peak actual change in Little Thurrock Blackshots .....	487
Plate A.62 AM peak percentage change in Little Thurrock Blackshots.....	488
Plate A.63 Interpeak actual change in Little Thurrock Blackshots .....	489
Plate A.64 Interpeak percentage change in Little Thurrock Blackshots .....	490
Plate A.65 PM actual change in Little Thurrock Blackshots.....	491
Plate A.66 PM percentage change in Little Thurrock Blackshots.....	492
Plate A.67 AM peak actual change in Stifford Clays.....	493
Plate A.68 AM peak percentage change in Stifford Clays .....	494
Plate A.69 Interpeak actual change in Stifford Clays .....	495
Plate A.70 Interpeak percentage change in Stifford Clays.....	496
Plate A.71 PM actual change in Stifford Clays.....	497
Plate A.72 PM percentage change in Stifford Clays .....	498
Plate A.73 AM peak actual change in Orsett .....	499
Plate A.74 AM peak percentage change in Orsett .....	500
Plate A.75 Interpeak actual change in Orsett .....	501
Plate A.76 Interpeak percentage change in Orsett .....	502
Plate A.77 PM actual change in Orsett .....	503
Plate A.78 PM percentage change in Orsett.....	504
Plate A.79 AM peak actual change in Belhus .....	505
Plate A.80 AM peak percentage change in Belhus.....	506
Plate A.81 Interpeak actual change in Belhus .....	507
Plate A.82 Interpeak percentage change in Belhus .....	508
Plate A.83 PM peak actual change in Belhus .....	509
Plate A.84 PM peak percentage change in Belhus.....	510
Plate A.85 AM peak actual change in Ockendon .....	511
Plate A.86 AM peak percentage change in Ockendon .....	512
Plate A.87 Interpeak actual change in Ockendon .....	513
Plate A.88 Interpeak percentage change in Ockendon.....	514
Plate A.89 PM peak actual change in Ockendon .....	515
Plate A.90 PM peak percentage change in Ockendon .....	516
Plate A.91 AM peak actual change in Upminster.....	517
Plate A.92 AM peak percentage change in Upminster .....	518
Plate A.93 Interpeak actual change in Upminster .....	519
Plate A.94 Interpeak percentage change in Upminster.....	520
Plate A.95 PM actual change in Upminster .....	521
Plate A.96 PM percentage change in Upminster .....	522
Plate A.97 AM peak actual change in Cranham .....	523
Plate A.98 AM peak percentage change in Cranham .....	524
Plate A.99 Interpeak actual change in Cranham.....	525
Plate A.100 Interpeak percentage change in Cranham .....	526
Plate A.101 PM actual change in Cranham .....	527
Plate A.102 PM percentage change in Cranham.....	528

Plate A.103 AM peak actual change in Warley .....	529
Plate A.104 AM peak actual change in South Weald.....	530
Plate A.105 AM peak percentage change in Warley.....	531
Plate A.106 AM peak percentage change in South Weald .....	532
Plate A.107 Interpeak actual change in Warley .....	533
Plate A.108 Interpeak actual change in South Weald.....	534
Plate A.109 Interpeak percentage change in Warley.....	535
Plate A.110 Interpeak percentage change in South Weald .....	536
Plate A.111 PM actual change in Warley.....	537
Plate A.112 PM actual change in South Weald .....	538
Plate A.113 PM percentage change in Warley .....	539
Plate A.114 PM percentage change in South Weald .....	540
Plate A.115 AM peak actual change in Medway .....	541
Plate A.116 AM peak percentage change in Medway .....	542
Plate A.117 Interpeak actual change in Medway .....	543
Plate A.118 Interpeak percentage change in Medway.....	544
Plate A.119 PM peak actual change in Medway .....	545
Plate A.120 PM peak percentage change in Medway .....	546
Plate A.121 AM peak actual change in Gravesham.....	547
Plate A.122 AM peak percentage change in Gravesham .....	548
Plate A.123 Interpeak actual change in Gravesham.....	549
Plate A.124 Interpeak percentage change in Gravesham .....	550
Plate A.125 PM peak actual change in Gravesham.....	551
Plate A.126 PM peak percentage change in Gravesham .....	552
Plate A.127 AM peak actual change in Dartford .....	553
Plate A.128 AM peak percentage change in Dartford .....	554
Plate A.129 Interpeak actual change in Dartford .....	555
Plate A.130 Interpeak percentage change in Dartford .....	556
Plate A.131 PM peak actual change in Dartford .....	557
Plate A.132 PM peak percentage change in Dartford .....	558
Plate A.133 AM peak actual change in Thurrock .....	559
Plate A.134 AM peak percentage change in Thurrock.....	560
Plate A.135 Interpeak actual change in Thurrock .....	561
Plate A.136 Interpeak percentage change in Thurrock.....	562
Plate A.137 PM peak actual change in Thurrock .....	563
Plate A.138 PM peak percentage change in Thurrock.....	564
Plate A.139 AM peak actual change in Havering.....	565
Plate A.140 AM peak percentage change in Havering .....	566
Plate A.141 Interpeak actual change in Havering .....	567
Plate A.142 Interpeak percentage change in Havering.....	568
Plate A.143 PM peak actual change in Havering .....	569
Plate A.144 PM peak percentage change in Havering .....	570
Plate B.1 AM peak 30 minute travel time in Shorne, Cobham and Luddesdown .....	572
Plate B.2 AM peak 60 minute travel time in Shorne, Cobham and Luddesdown .....	573

Plate B.3 PM peak 30 minute travel time in Shorne, Cobham and Luddesdown .....	574
Plate B.4 PM peak 60 minute travel time in Shorne, Cobham and Luddesdown .....	575
Plate B.5 AM peak 30 minute travel time in Higham.....	576
Plate B.6 AM peak 60 minute travel time in Higham.....	577
Plate B.7 PM peak 30 minute travel time in Higham.....	578
Plate B.8 PM peak 60 minute travel time in Higham.....	579
Plate B.9 AM peak 30 minute travel time in Singlewell .....	580
Plate B.10 AM peak 60 minute travel time in Singlewell .....	581
Plate B.11 PM peak 30 minute travel time in Singlewell .....	582
Plate B.12 PM peak 60 minute travel time in Singlewell .....	583
Plate B.13 AM peak 30 minute travel time in Riverview.....	584
Plate B.14 AM peak 60 minute travel time in Riverview.....	585
Plate B.15 PM peak 30 minute travel time in Riverview.....	586
Plate B.16 PM peak 60 minute travel time in Riverview.....	587
Plate B.17 AM peak 30 minute travel time in Westcourt .....	588
Plate B.18 AM peak 60 minute travel time in Westcourt .....	589
Plate B.19 PM peak 30 minute travel time in Westcourt .....	590
Plate B.20 PM peak 60 minute travel time in Westcourt .....	591
Plate B.21 AM peak 30 minute travel time in Chalk .....	592
Plate B.22 AM peak 60 minute travel time in Chalk .....	593
Plate B.23 PM peak 30 minute travel time in Chalk .....	594
Plate B.24 PM peak 60 minute travel time in Chalk .....	595
Plate B.25 AM peak 30 minute travel time in East Tilbury .....	596
Plate B.26 AM peak 60 minute travel time in East Tilbury .....	597
Plate B.27 PM peak 30 minute travel time in East Tilbury .....	598
Plate B.28 PM peak 60 minute travel time in East Tilbury .....	599
Plate B.29 AM peak 30 minute travel time in Tilbury Riverside and Thurrock .....	600
Plate B.30 AM peak 60 minute travel time in Tilbury Riverside and Thurrock .....	601
Plate B.31 PM peak 30 minute travel time in Tilbury Riverside and Thurrock .....	602
Plate B.32 PM peak 60 minute travel time in Tilbury Riverside and Thurrock .....	603
Plate B.33 AM peak 30 minute travel time in Tilbury St Chads.....	604
Plate B.34 AM peak 60 minute travel time in Tilbury St Chads.....	605
Plate B.35 PM peak 30 minute travel time in Tilbury St Chads.....	606
Plate B.36 PM peak 60 minute travel time in Tilbury St Chads.....	607
Plate B.37 AM peak 30 minute travel time in Chadwell St Marys .....	608
Plate B.38 AM peak 60 minute travel time Chadwell St Marys .....	609
Plate B.39 PM peak 30 minute travel time Chadwell St Marys .....	610
Plate B.40 PM peak 60 minute travel time Chadwell St Marys .....	611
Plate B.41 AM peak 30 minute travel time in Little Thurrock Blackshots .....	612
Plate B.42 AM peak 60 minute travel time in Little Thurrock Blackshots .....	613
Plate B.43 PM peak 30 minute travel time in Little Thurrock Blackshots .....	614
Plate B.44 PM peak 60 minute travel time in Little Thurrock Blackshots .....	615
Plate B.45 AM peak 30 minute travel time in Stifford Clays.....	616
Plate B.46 AM peak 60 minute travel time in Stifford Clays.....	617

Plate B.47 PM peak 30 minute travel time in Stifford Clays.....	618
Plate B.48 PM peak 60 minute travel time in Stifford Clays.....	619
Plate B.49 AM peak 30 minute travel time in Orsett .....	620
Plate B.50 AM peak 60 minute travel time in Orsett .....	621
Plate B.51 PM peak 30 minute travel time in Orsett .....	622
Plate B.52 PM peak 60 minute travel time in Orsett .....	623
Plate B.53 AM peak 30 minute travel time in Belhus .....	624
Plate B.54 AM peak 60 minute travel time in Belhus .....	625
Plate B.55 PM peak 30 minute travel time in Belhus .....	626
Plate B.56 PM peak 60 minute travel time in Belhus .....	627
Plate B.57 AM peak 30 minute travel time in Ockendon .....	628
Plate B.58 AM peak 60 minute travel time in Ockendon .....	629
Plate B.59 PM peak 30 minute travel time in Ockendon .....	630
Plate B.60 PM peak 60 minute travel time in Ockendon .....	631
Plate B.61 AM peak 30 minute travel time in Upminster.....	632
Plate B.62 AM peak 60 minute travel time in Upminster.....	633
Plate B.63 PM peak 30 minute travel time in Upminster.....	634
Plate B.64 PM peak 60 minute travel time in Upminster.....	635
Plate B.65 AM peak 30 minute travel time in Cranham .....	636
Plate B.66 AM peak 60 minute travel time in Cranham .....	637
Plate B.67 PM peak 30 minute travel time in Cranham .....	638
Plate B.68 PM peak 60 minute travel time in Cranham .....	639
Plate B.69 AM peak 30 minute travel time in Warley .....	640
Plate B.70 AM peak 30 minute travel time in South Weald.....	641
Plate B.71 AM peak 60 minute travel time in Warley .....	642
Plate B.72 AM peak 60 minute travel time in South Weald.....	643
Plate B.73 PM peak 30 minute travel time in Warley .....	644
Plate B.74 PM peak 30 minute travel time in South Weald.....	645
Plate B.75 PM peak 60 minute travel time in Warley .....	646
Plate B.76 PM peak 60 minute travel time in South Weald.....	647
Plate B.77 AM peak 30 minute travel time in Medway.....	648
Plate B.78 AM peak 60 minute travel time in Medway.....	649
Plate B.79 PM peak 30 minute travel time in Medway.....	650
Plate B.80 PM peak 60 minute travel time in Medway.....	651
Plate B.81 AM peak 30 minute travel time in Gravesham.....	652
Plate B.82 AM peak 60 minute travel time in Gravesham.....	653
Plate B.83 PM peak 30 minute travel time in Gravesham.....	654
Plate B.84 PM peak 60 minute travel time in Gravesham.....	655
Plate B.85 AM peak 30 minute travel time in Dartford .....	656
Plate B.86 AM peak 60 minute travel time in Dartford .....	657
Plate B.87 PM peak 30 minute travel time in Dartford .....	658
Plate B.88 PM peak 60 minute travel time in Dartford .....	659
Plate B.89 AM peak 30 minute travel time in Thurrock .....	660
Plate B.90 AM peak 60 minute travel time in Thurrock .....	661

Plate B.91 PM peak 30 minute travel time in Thurrock .....	662
Plate B.92 PM peak 60 minute travel time in Thurrock .....	663
Plate B.93 AM peak 30 minute travel time in Havering .....	664
Plate B.94 AM peak 60 minute travel time in Havering .....	665
Plate B.95 PM peak 30 minute travel time in Havering .....	666
Plate B.96 PM peak 60 minute travel time in Havering .....	667

## List of tables

	Page number
Table 4.1 Construction modelling phases .....	14
Table 6.1 Average daily vehicle numbers going to compounds near Shorne, Cobham and Luddesdown ward.....	24
Table 6.2 Predicted construction noise levels in Shorne, Cobham and Luddesdown ward .....	30
Table 6.3 Average daily vehicle numbers going to compounds near Higham ward.....	47
Table 6.4 Predicted construction noise levels in Higham ward .....	49
Table 6.5 Average daily vehicle numbers going to Marling Cross Compound .....	58
Table 6.6 Average daily vehicle numbers going to compounds near Singlewell ward .....	59
Table 6.7 Predicted construction noise levels in Singlewell ward .....	62
Table 6.8 Average daily vehicle numbers going to a compound in Riverview ward.....	72
Table 6.9 Predicted construction noise levels in Riverview ward.....	74
Table 6.10 Average daily vehicle numbers going to compounds in or near Westcourt ward .....	86
Table 6.11 Predicted construction noise levels in Westcourt ward .....	88
Table 6.12 Average daily vehicle numbers going to compounds near Chalk ward .....	99
Table 6.13 Predicted construction noise levels in Chalk ward .....	100
Table 6.14 Average daily vehicle numbers going to a compound in East Tilbury ward ...	113
Table 6.15 Main traffic management measures in East Tilbury .....	113
Table 6.16 Predicted construction noise levels in East Tilbury ward .....	118
Table 6.17 Average daily vehicle numbers going to compounds in and near Tilbury Riverside and Thurrock Park ward.....	135
Table 6.18 Predicted construction noise levels in Tilbury Riverside and Thurrock Park ward .....	138
Table 6.19 Average daily vehicle numbers going to compounds near Tilbury St Chads ward .....	149
Table 6.20 Main traffic management measures in Tilbury St Chads ward .....	150
Table 6.21 Predicted construction noise levels in Tilbury St Chads ward .....	152
Table 6.22 Average daily vehicle numbers going to compounds near Chadwell St Mary ward .....	163
Table 6.23 Main traffic management measures in Chadwell St Mary ward .....	163
Table 6.24 Predicted construction noise levels in Chadwell St Mary ward .....	168
Table 6.25 Main traffic management measures in Little Thurrock Blackshots ward .....	180

Table 6.26 Predicted construction noise levels in Little Thurrock Blackshots ward .....	183
Table 6.27 Main traffic management measures in Stifford Clays ward .....	193
Table 6.28 Predicted construction noise levels in Stifford Clays ward .....	195
Table 6.29 Average daily vehicle numbers going to compounds in Orsett ward.....	211
Table 6.30 Main traffic management measures in Orsett ward.....	212
Table 6.31 Predicted construction noise levels in Orsett ward .....	221
Table 6.32 Average daily vehicle numbers going to compounds in Ockendon ward .....	250
Table 6.33 Main traffic management measures in Ockendon ward.....	250
Table 6.34 Predicted construction noise levels in Ockendon ward.....	254
Table 6.35 Daily average number of vehicles going to the M25 and Ockendon Road compounds .....	267
Table 6.36 Main traffic management measures in Upminster Ward .....	268
Table 6.37 Predicted construction noise levels in Upminster ward.....	272
Table 6.38 Average daily vehicle numbers going to compounds in Cranham ward.....	287
Table 6.39 Main traffic management measures in Cranham ward.....	288
Table 6.40 Predicted construction noise levels in Cranham ward.....	290
Table 6.41 Daily average number of vehicles going to the Warley Street compound .....	301
Table 6.42 Main traffic management measures in Warley and South Weald wards .....	302
Table 6.43 Predicted construction noise levels in Warley ward .....	304
Table 7.1 Predicted construction noise levels in Medway.....	315
Table 7.2 Predicted construction noise levels in Woodlands and Riverside wards.....	324
Table 7.3 Proposed traffic management measures relevant to Little Thurrock Rectory, and Chafford and North Stifford wards .....	342
Table 7.4 Predicted construction noise levels in Harold Wood ward .....	352

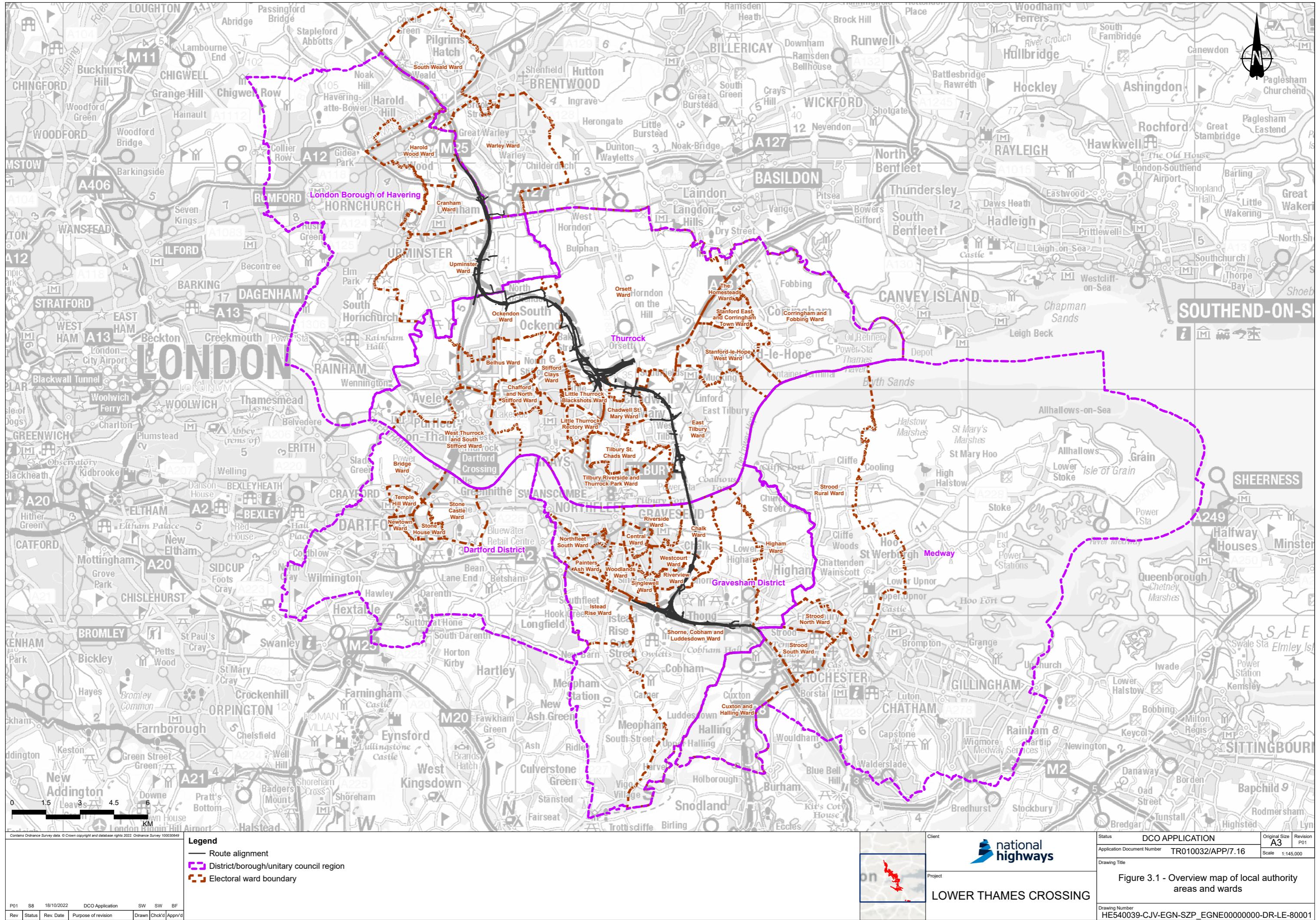
## List of Figures

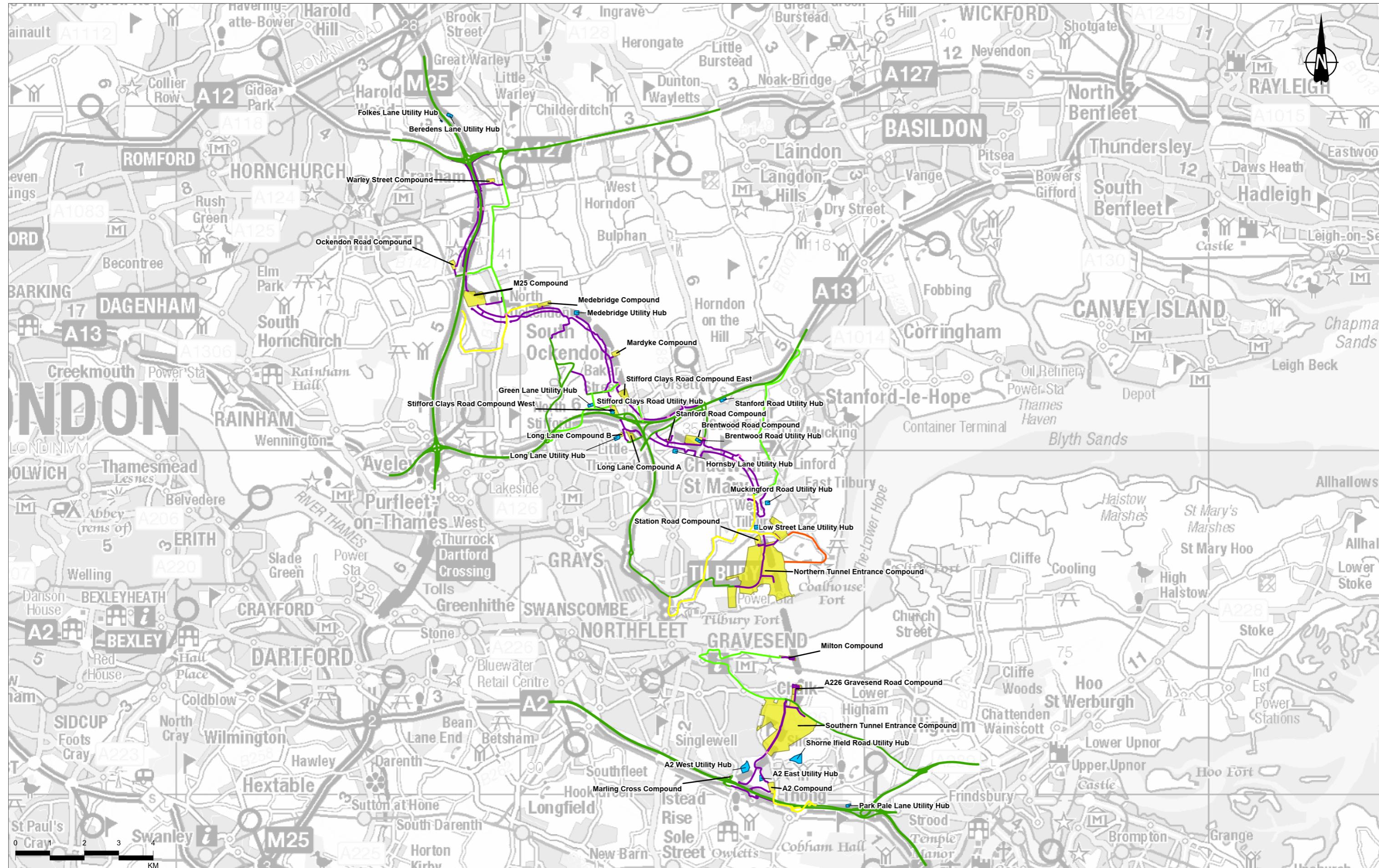
	Page number
Figure 3.1 Overview map of local authority areas and wards .....	669
Figure 4.1 Construction compounds and haul roads .....	670
Figure 6.1a Construction impacts summary plan of Shorne, Cobham and Luddesdown Ward .....	671
Figure 6.1b Operational impacts summary plan of Shorne, Cobham and Luddesdown Ward .....	672
Figure 6.1c Mitigation proposals in Shorne, Cobham and Luddesdown Ward .....	673
Figure 6.2a Construction impacts summary plan of Higham Ward .....	674
Figure 6.2b Operational impacts summary plan of Riverview Ward .....	675
Figure 6.2c Mitigation proposals in Riverview Ward .....	676
Figure 6.3a Construction impacts summary plan of Singlewell Ward .....	677
Figure 6.3b Operational impacts summary plan of Singlewell Ward .....	678
Figure 6.3c Mitigation proposals in Singlewell Ward .....	679

Figure 6.4a Construction impacts summary plan of Riverview Ward .....	680
Figure 6.4b Operational impacts summary plan of Riverview Ward .....	690
Figure 6.4c Mitigation proposals in Riverview Ward .....	691
Figure 6.5a Construction impacts summary plan of Westcourt Ward .....	692
Figure 6.5b Operational impacts summary plan of Westcourt Ward .....	693
Figure 6.5c Mitigation proposals in Westcourt Ward .....	694
Figure 6.6a Construction impacts summary plan of Chalk Ward .....	695
Figure 6.6b Operational impacts summary plan of Chalk Ward .....	696
Figure 6.6c Mitigation proposals in Chalk Ward .....	697
Figure 6.7a Construction impacts summary plan of East Tilbury Ward .....	698
Figure 6.7b Operational impacts summary plan of East Tilbury Ward .....	699
Figure 6.7c Mitigation proposals in East Tilbury Ward .....	700
Figure 6.8a Construction impacts summary plan of Tilbury Riverside and Thurrock Park War .....	701
Figure 6.8b Operational impacts summary plan of Tilbury Riverside and Thurrock Park Ward .....	702
Figure 6.8c Mitigation proposals in Tilbury Riverside and Thurrock Park Ward .....	703
Figure 6.9a Construction impacts summary plan of Tilbury St. Chads Ward .....	704
Figure 6.9b Operational impacts summary plan of Tilbury St. Chads Ward .....	705
Figure 6.9c Mitigation proposals in Tilbury St. Chads Ward .....	706
Figure 6.10a Construction impacts summary plan of Chadwell St. Mary Ward .....	707
Figure 6.10b Operational impacts summary plan of Chadwell St. Mary Ward .....	708
Figure 6.10c Mitigation proposals plan of Chadwell St. Mary Ward .....	709
Figure 6.11a Construction impacts summary plan of Little Thurrock Blackshots Ward .....	710
Figure 6.11b Operational impacts summary plan of Little Thurrock Blackshots Ward .....	711
Figure 6.11c Mitigation proposals in Little Thurrock Blackshots Ward .....	712
Figure 6.12a Construction impacts summary plan of Stifford Clays Ward .....	713
Figure 6.12b Operational impacts summary plan of Stifford Clays Ward .....	714
Figure 6.12c Mitigation proposals in Stifford Clays Ward .....	715
Figure 6.13a Construction impacts summary plan of Orsett Ward .....	716
Figure 6.13b Operational impacts summary plan of Orsett Ward .....	717
Figure 6.13c Mitigation proposals in Orsett Ward .....	718
Figure 6.14a Construction impacts summary plan of Belhus Ward .....	719
Figure 6.14b Operational impacts summary plan of Belhus Ward .....	720
Figure 6.14c Mitigation proposals in Belhus Ward .....	721
Figure 6.15a Construction impacts summary plan of Ockendon Ward .....	722

Figure 6.15b Operational impacts summary plan of Ockendon Ward .....	723
Figure 6.15c Mitigation proposals in Ockendon Ward .....	724
Figure 6.16a Construction impacts summary plan of Upminster Ward .....	725
Figure 6.16b Operational impacts summary plan of Upminster Ward .....	726
Figure 6.16c Mitigation proposals in Upminster Ward .....	727
Figure 6.17a Construction impacts summary plan of Cranham Ward .....	728
Figure 6.17b Operational impacts summary plan of Cranham Ward .....	729
Figure 6.17c Mitigation proposals in Cranham Ward .....	730
Figure 6.18a Construction impacts summary plan of Warley Ward .....	731
Figure 6.18a(i) Construction impacts summary plan of South Weald Ward .....	732
Figure 6.18b Operational impacts summary plan of Warley Ward .....	733
Figure 6.18b(ii) Operational impacts summary plan of South Weald Ward .....	734
Figure 6.18c Mitigation proposals in Warley Ward .....	735
Figure 6.18c(iii) Mitigation proposals in South Weald Ward .....	736
Figure 7.1 Community impacts in the wider area: Medway .....	737
Figure 7.2 Community impacts in the wider area: Gravesham .....	738
Figure 7.3 Community impacts in the wider area: Dartford .....	739
Figure 7.4 Community impacts in the wider area: Thurrock - west of Project .....	740
Figure 7.5 Community impacts in the wider area: Thurrock - east of Project .....	741
Figure 7.6 Community impacts in the wider area: Havering .....	742

## Appendix C Figures



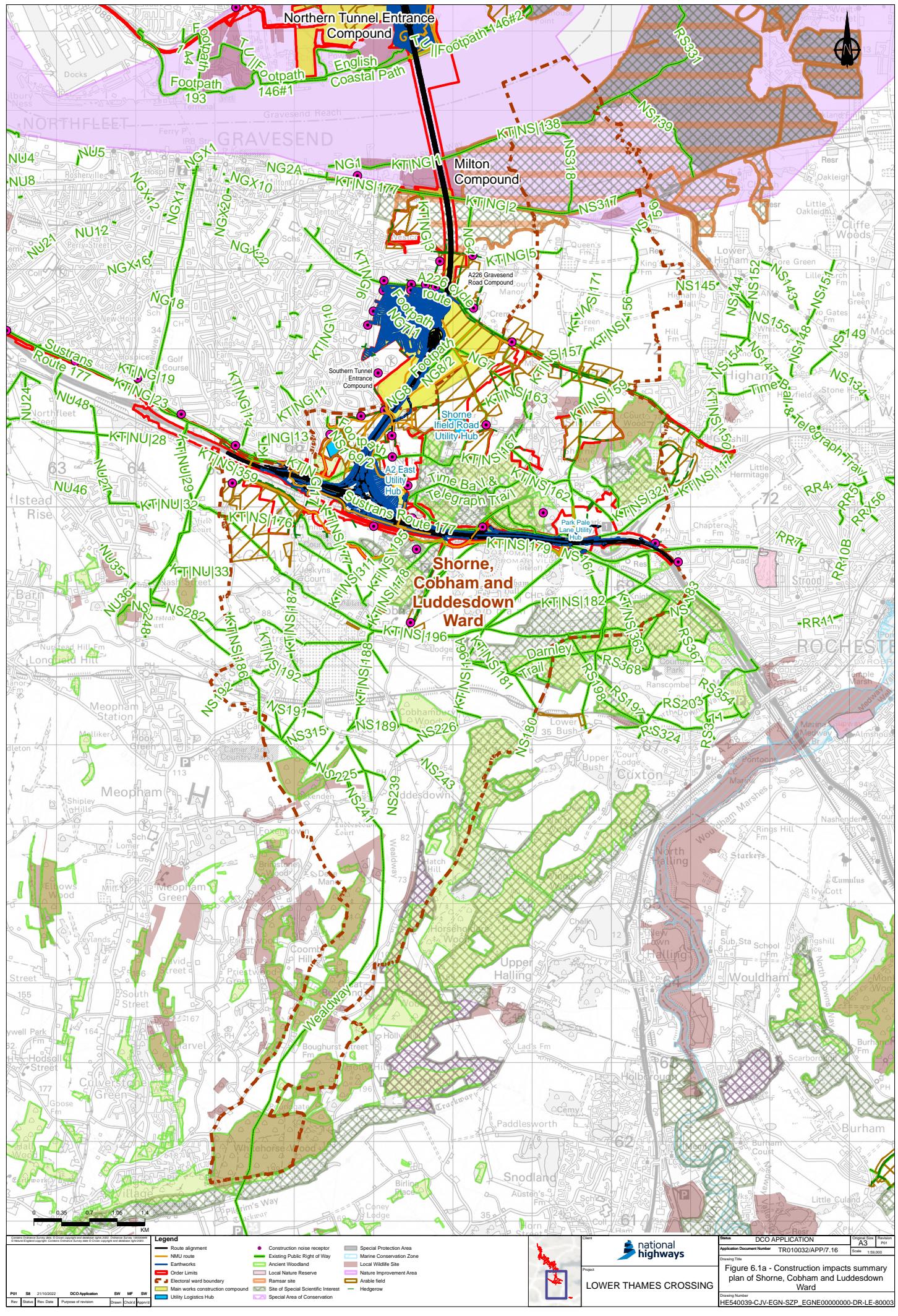


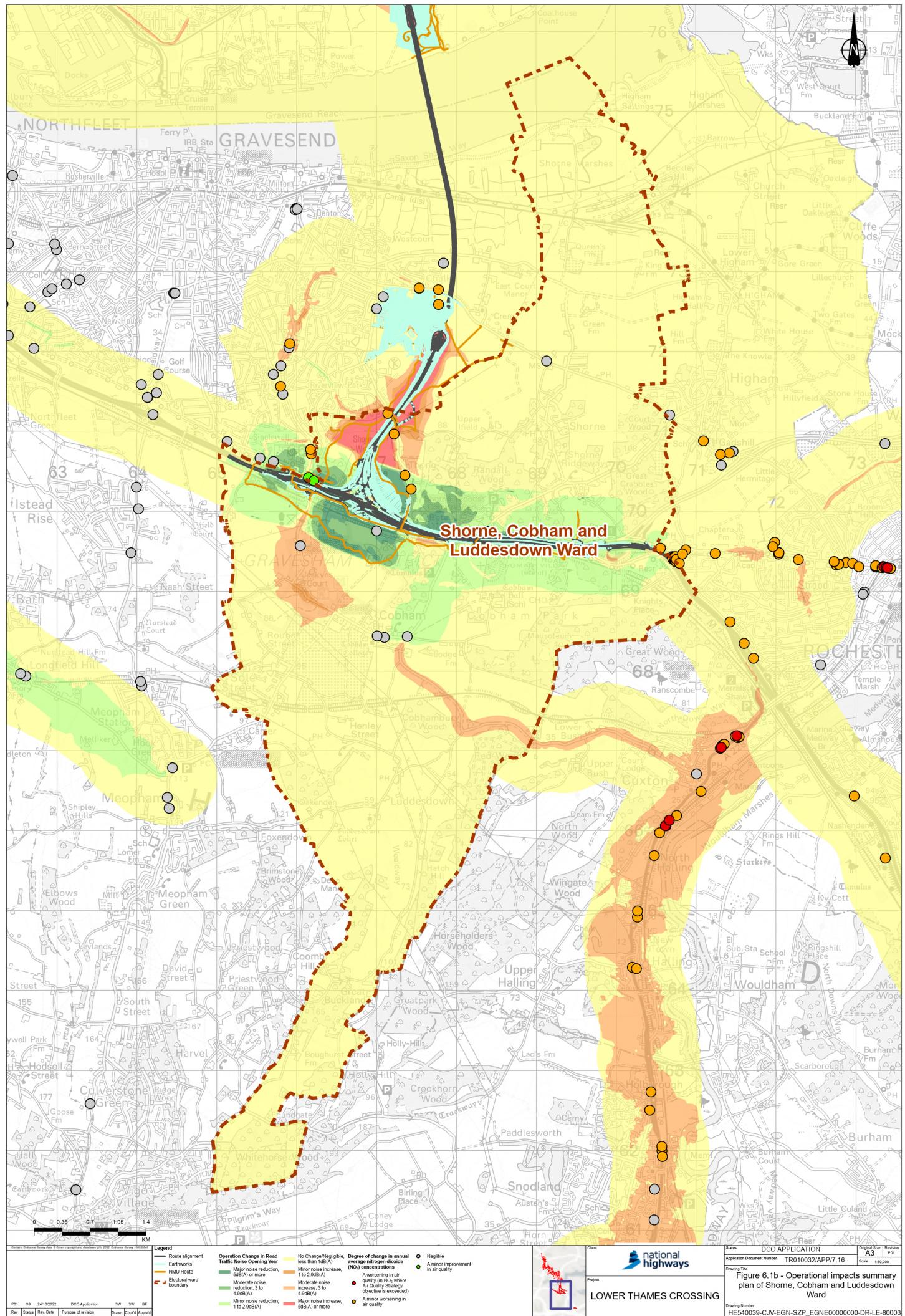
Contains Ordnance Survey data © Crown copyright and database rights 2022. Ordnance Survey 10003649

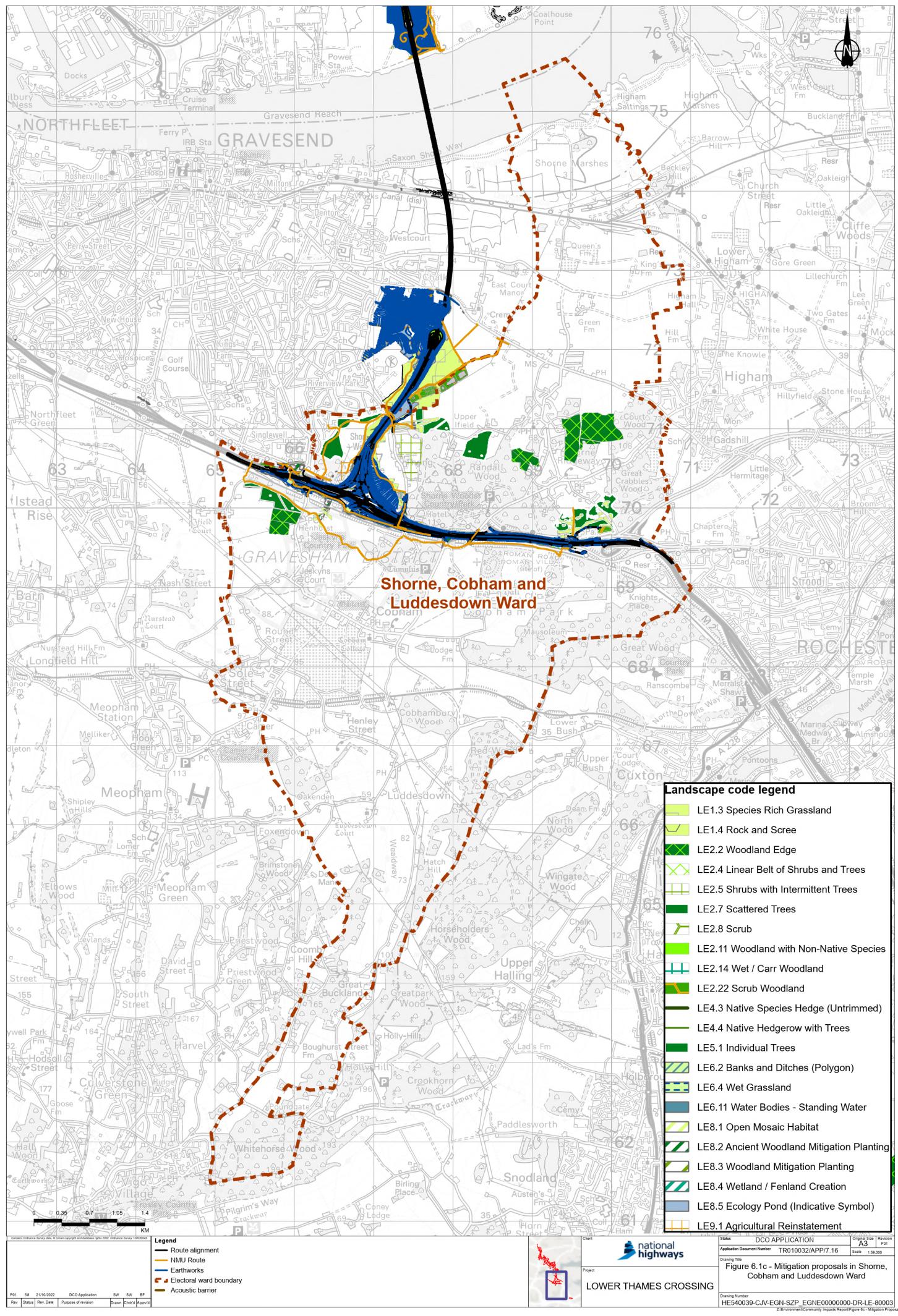
P01	S8	25/10/2022	DCO Application	SW	SW	BF
Rev	Status	Rev Date	Purpose of revision	Drawn	Chkd	Apprvd

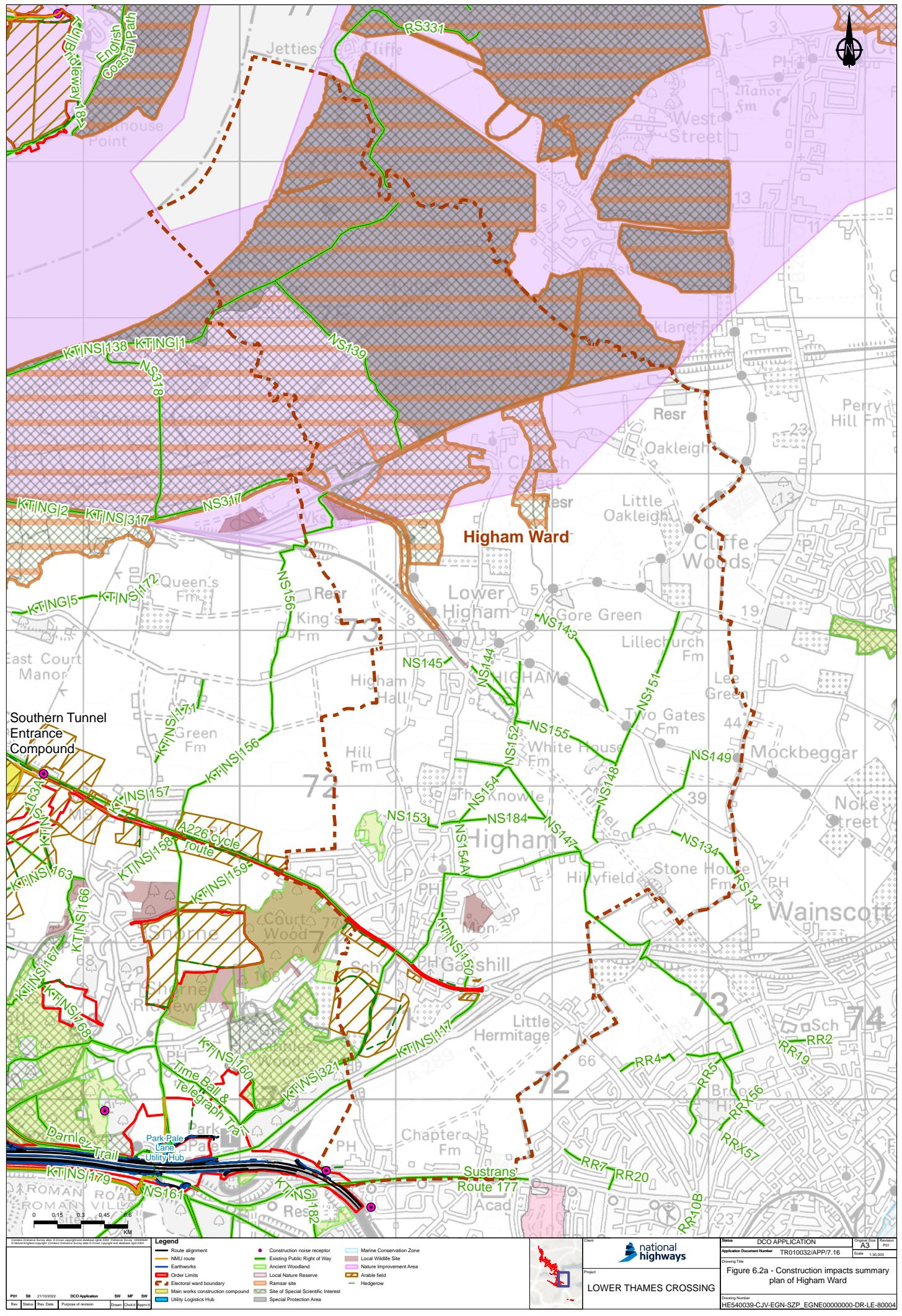
Client  
  
**LOWER THAMES CROSSING**

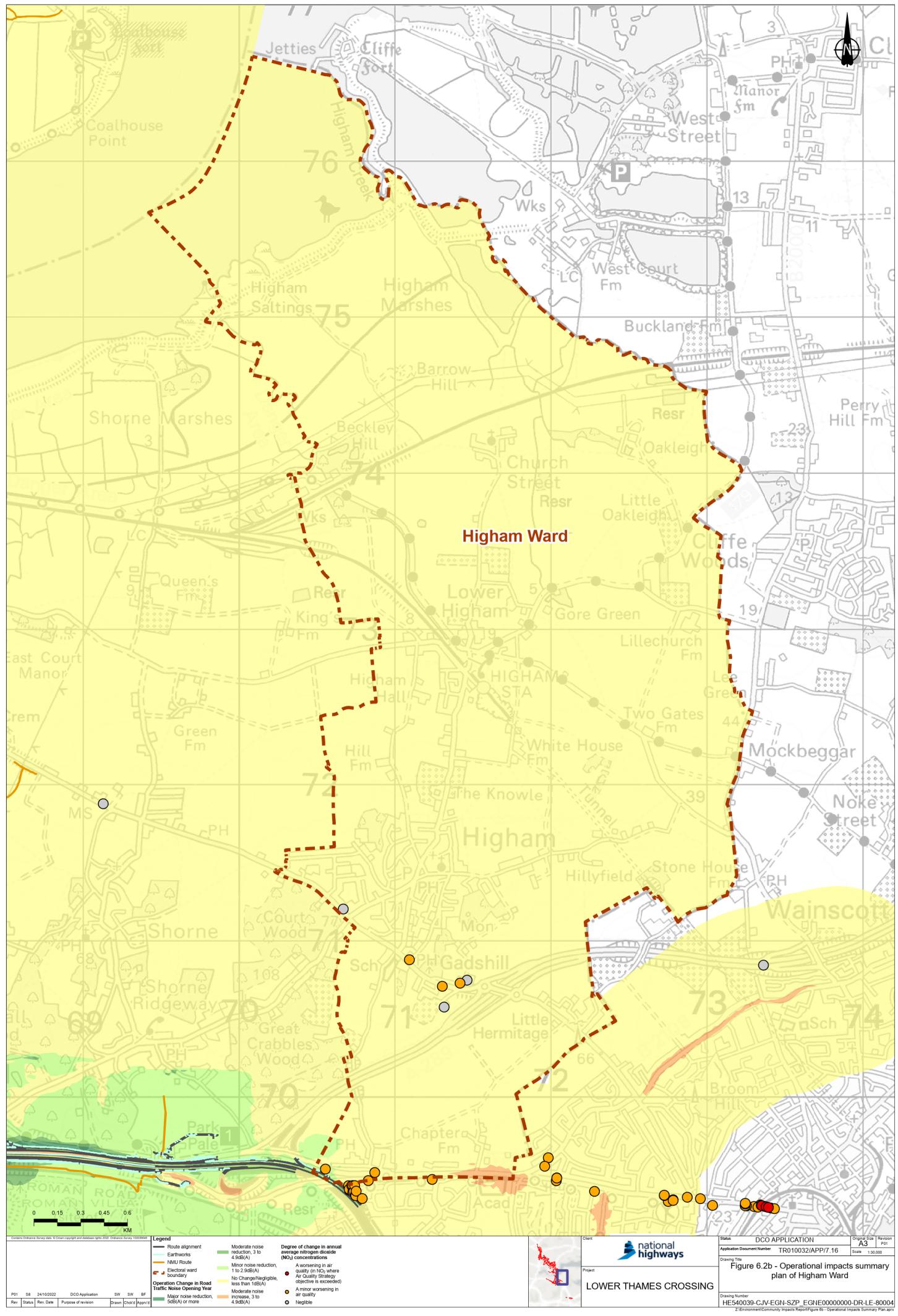
Status	DCO APPLICATION	Original Size	Revision
	Application Document Number TR010032/APP/7.16	A3	P01
	Drawing Title	1:100,000	
Project			Figure 4.1 - Construction compounds and haul routes
Drawing Number HE540039-CJV-EGN-SZP_EGNE00000000-DR-LE-80002			Z:\\Environment\\Community Impacts Report\\Figure 4.1 - Construction compounds and haul routes.aprx

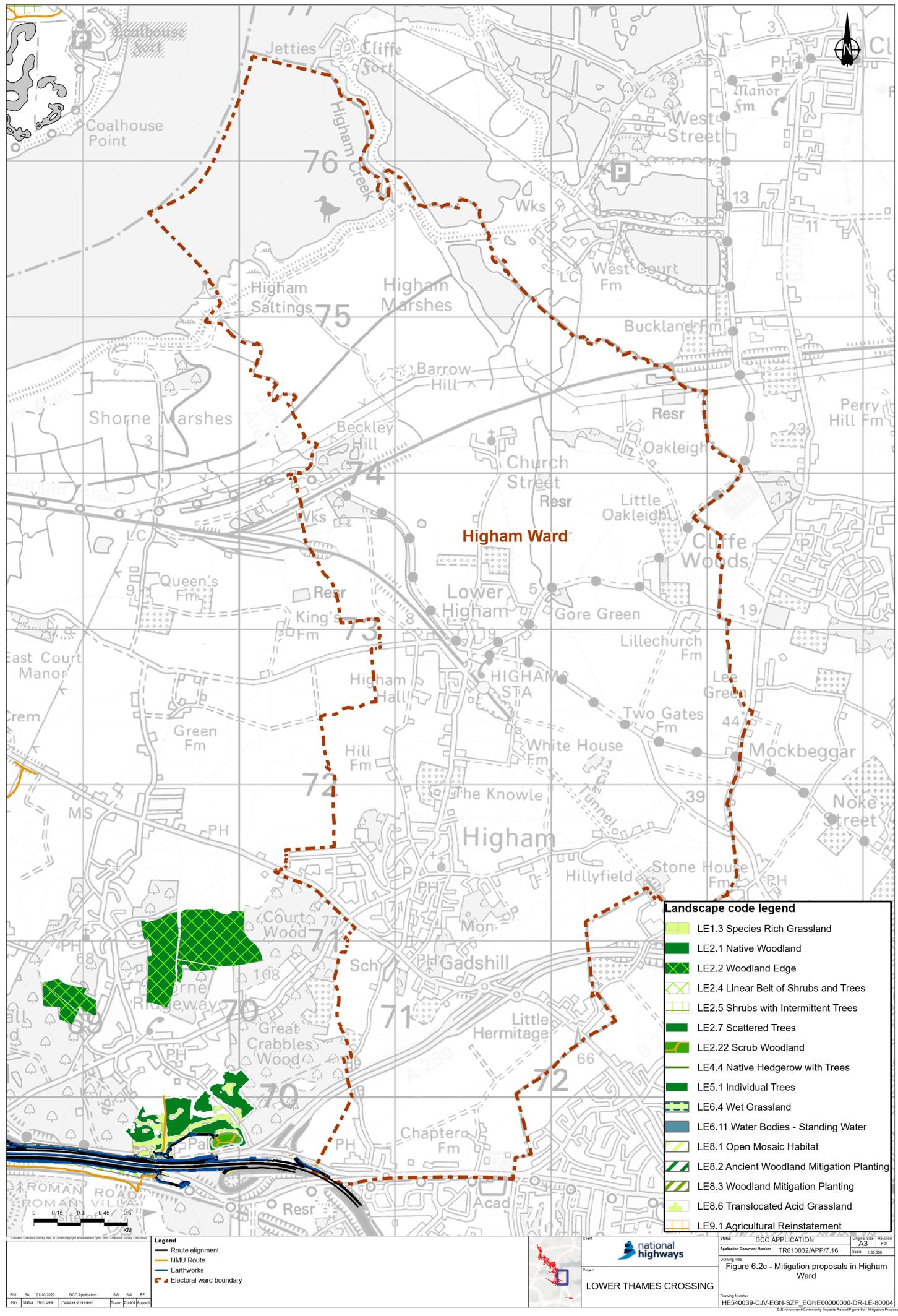


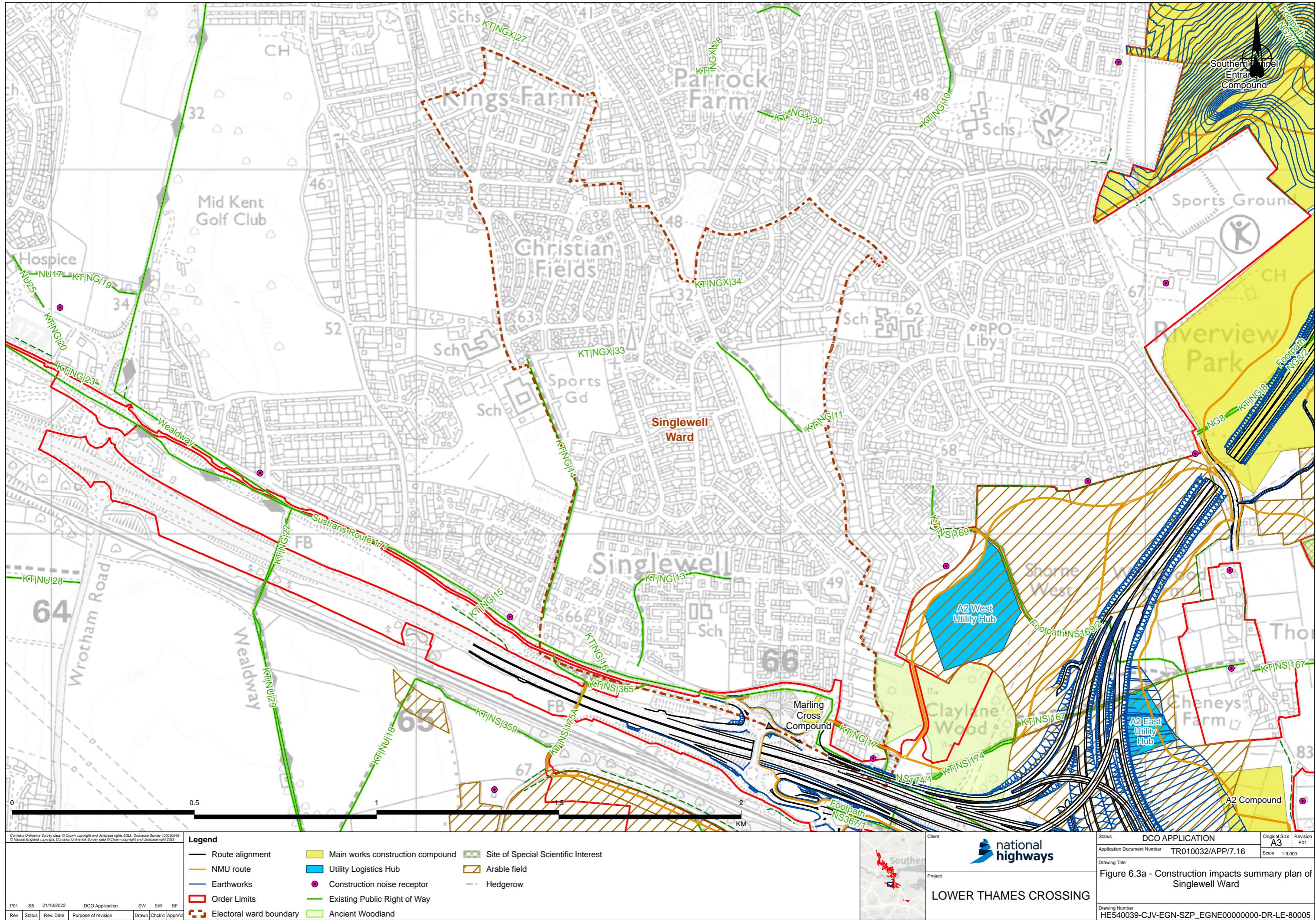


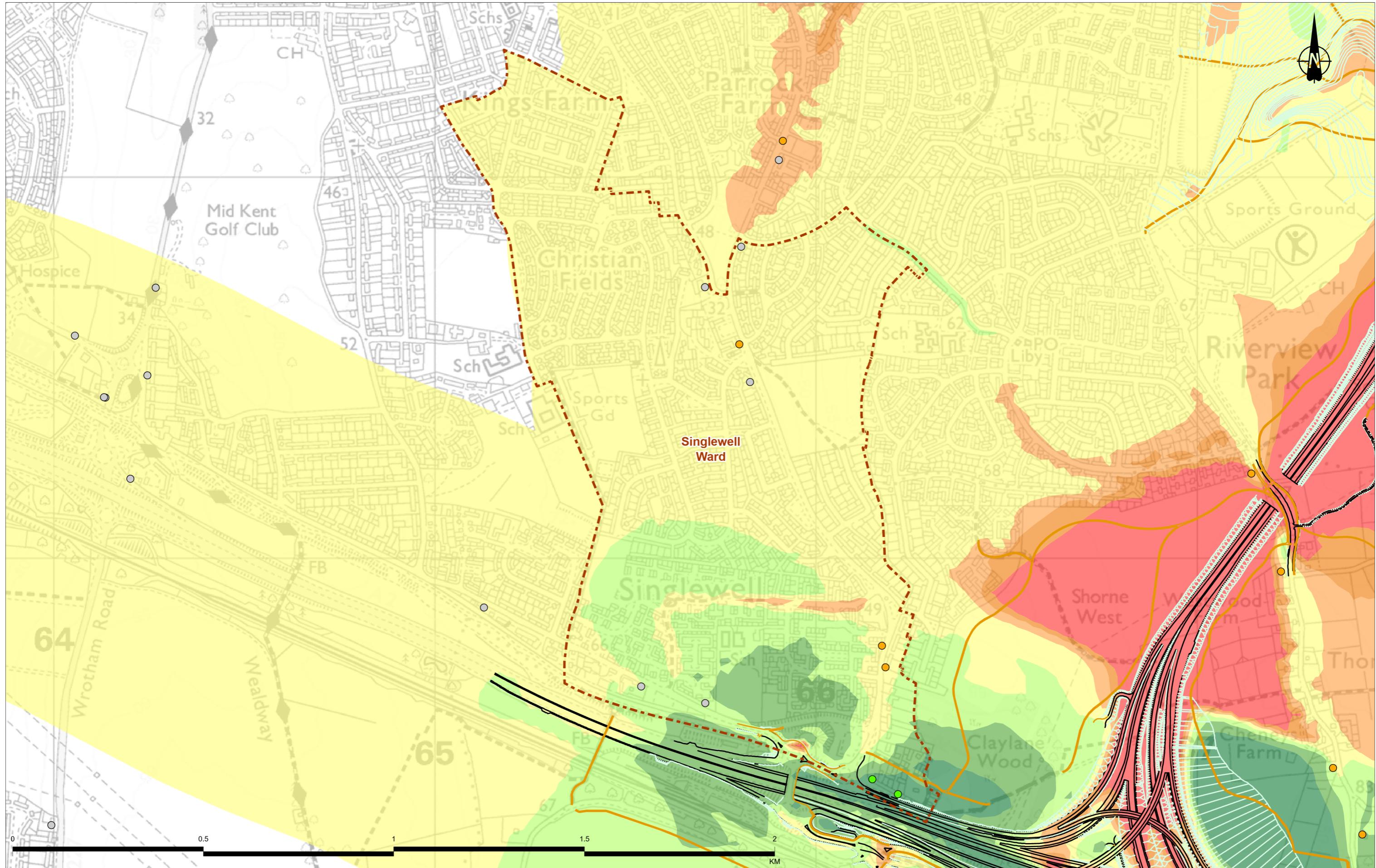












Contains Ordnance Survey data © Crown copyright and database rights 2022. Ordnance Survey 100030649

Legend	
—	Route alignment
—	Earthworks
—	NMU Route
—	Electoral ward boundary

**Operation Change in Road Traffic Noise Opening Year**

YO Key des

- Major noise reduction, 5dB(A) or more
- Moderate noise reduction, 3 to 4.9dB(A)
- Moderate noise reduction, 3 to 4.9dB(A)
- Minor noise reduction, 1 to 2.9dB(A)

**Degree of change in annual average nitrogen dioxide (NO<sub>2</sub>) concentrations**

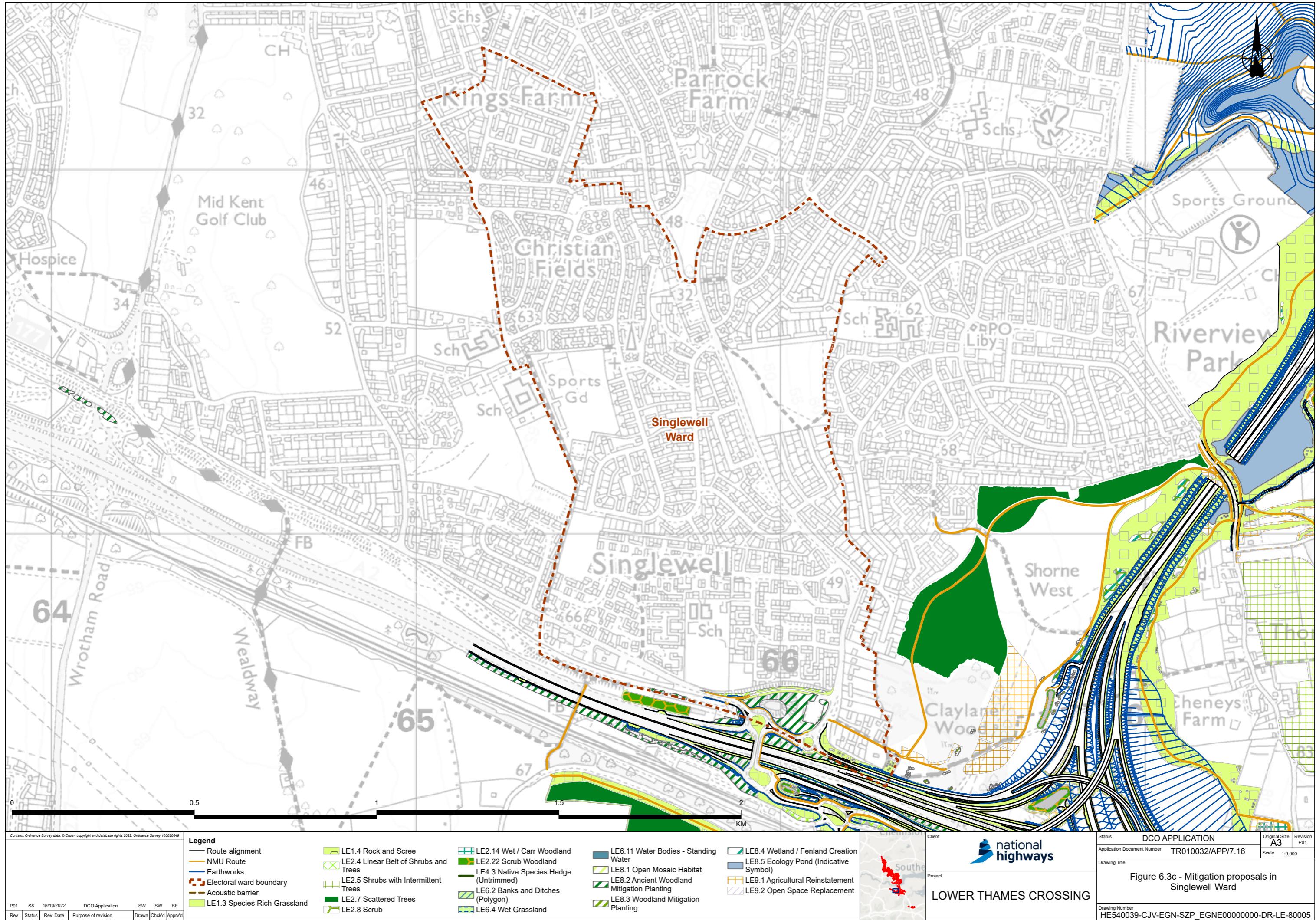
Magnitude

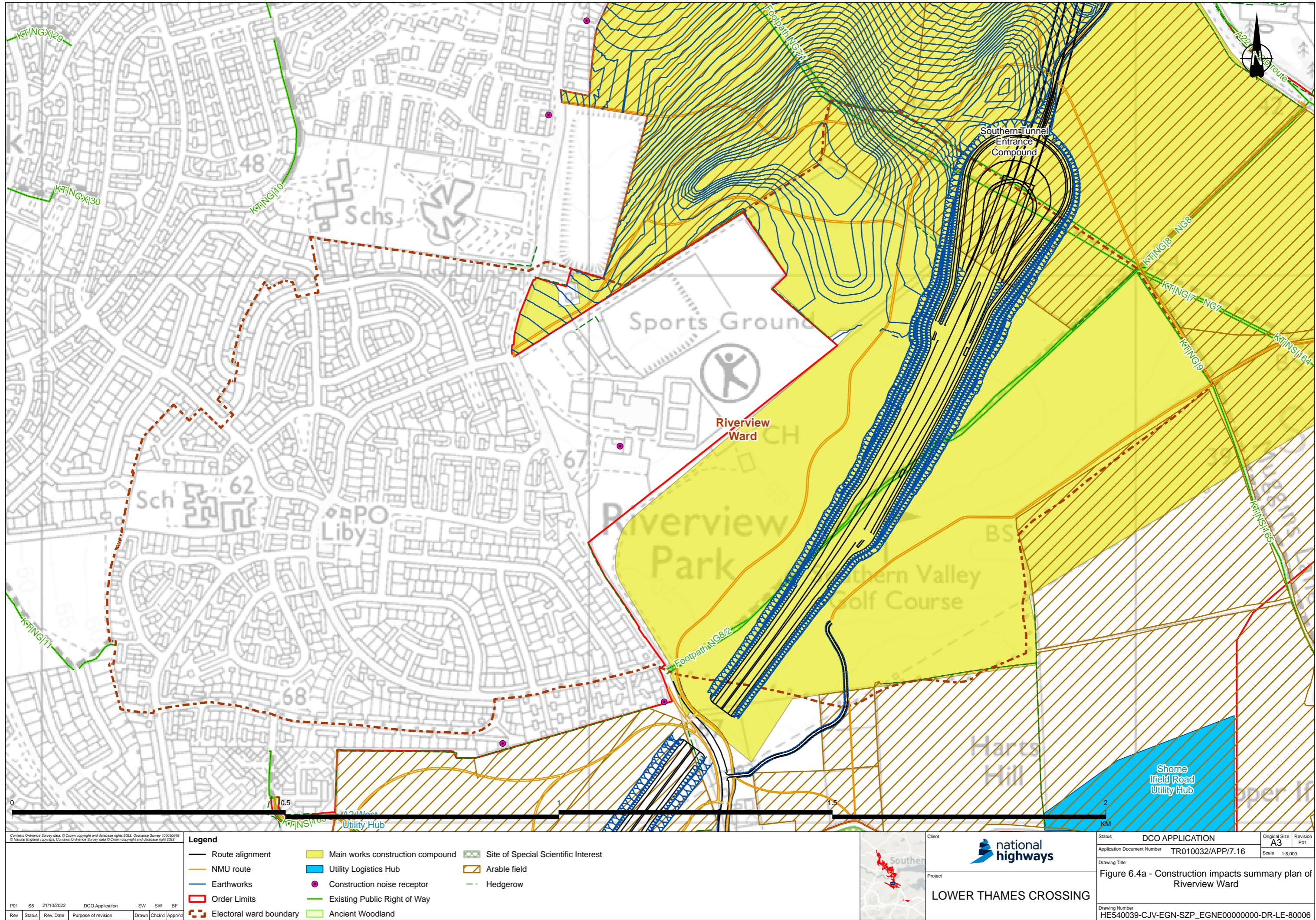
- A minor worsening in air quality
- Negligeable
- A minor improvement in air quality

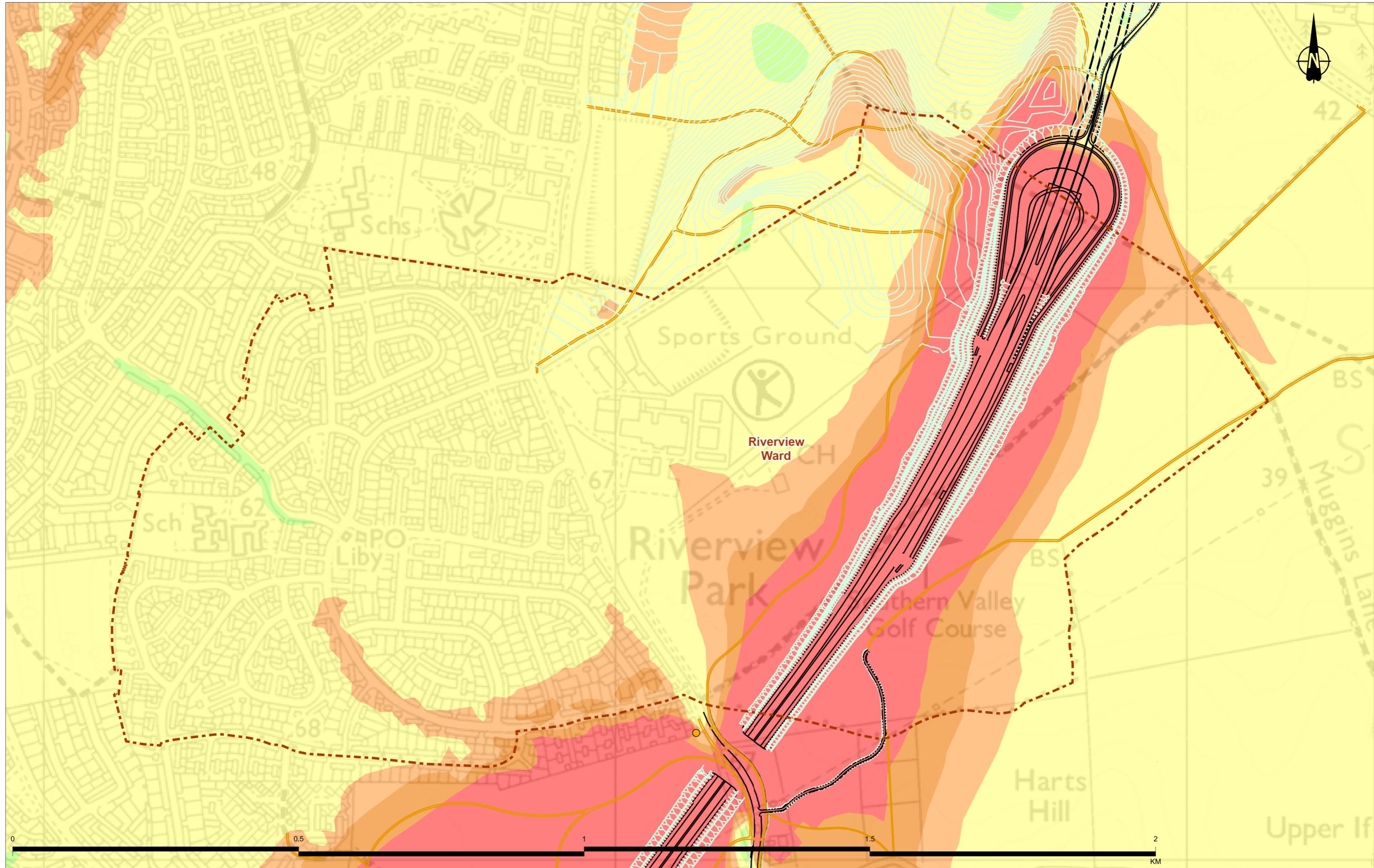
P01 S8 24/10/2022 DCO Application SW SW BF  
Rev Status Rev Date Purpose of revision Drawn Chkd Apprvd

**Client:** national highways  
**Project:** LOWER THAMES CROSSING

**DCO APPLICATION**  
Original Size A3 Revision P01  
Application Document Number TR010032/APP/7.16 Scale 1:9,000  
Drawing Title  
**Figure 6.3b - Operational impacts summary plan of Singlewell Ward**  
Drawing Number HE540039-CJV-EGN-SZP\_EGNE00000000-DR-LE-80005  
Z:\\Environment\\Community Impacts Report\\Figure 6b - Operational Impacts Summary Plan.aprx







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

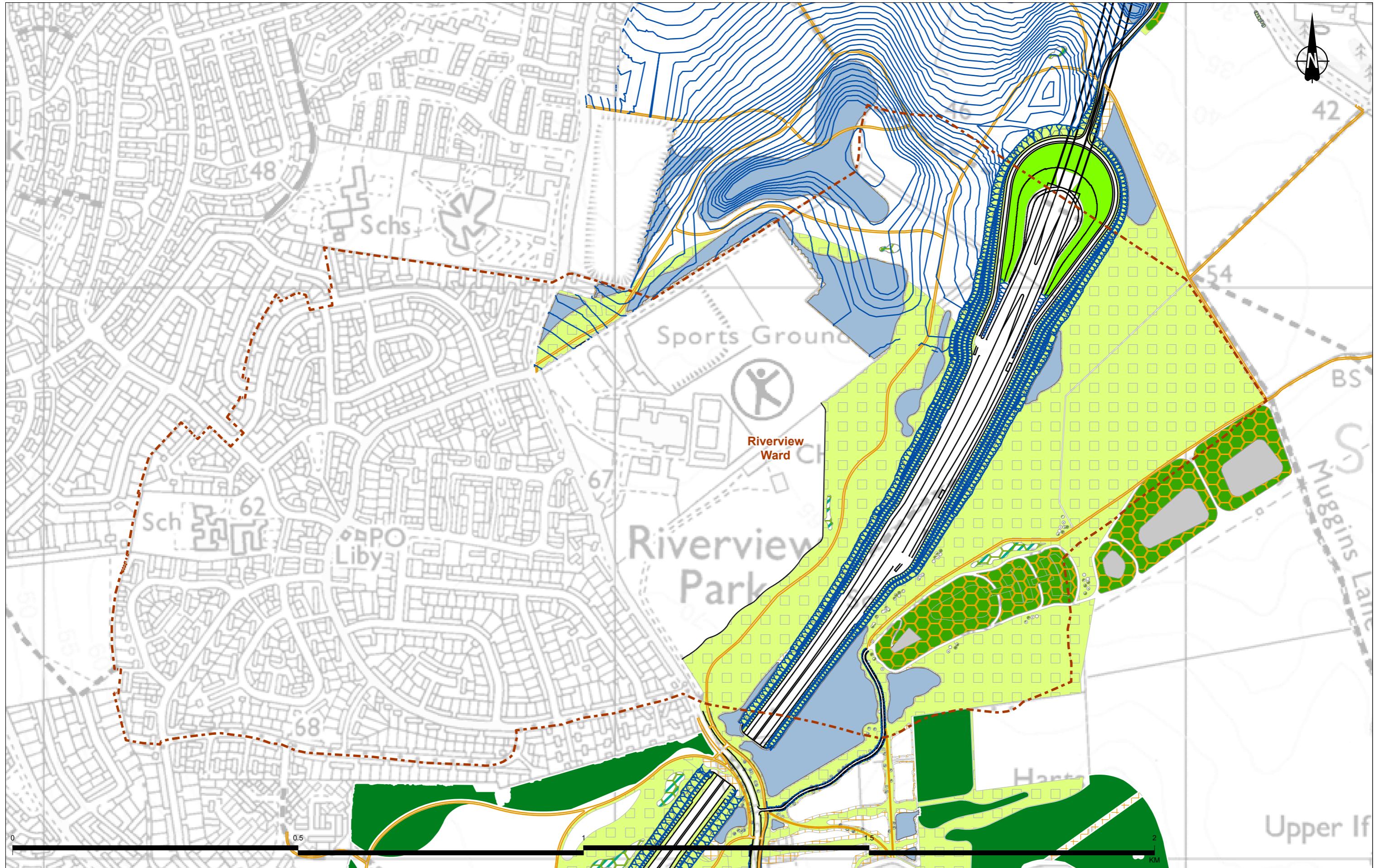
Legend	
— Route alignment	
— Earthworks	
— NMU Route	
— Electoral ward boundary	

Operation Change in Road Traffic Noise Opening Year	
OY Key des	Moderate noise increase, 3 to 4.9dB(A)
—	Major noise increase, 5dB(A) or more
—	Minor noise reduction, 1 to 2.9dB(A)
—	No Change/Negligible, less than 1dB(A)
—	Minor noise increase, 1 to 2.9dB(A)
—	Magnitude
—	A minor worsening in air quality

P01	S8	24/10/2022	DCO Application	SW	SW	BF
Rev	Status	Rev Date	Purpose of revision	Drawn	Chkd	Apprvd



Status	DCO APPLICATION	Original Size A3	Revision P01
Application Document Number	TR010032/APP/7.16	Scale	1:6,000
Drawing Title			
Figure 6.4b - Operational impacts summary plan of Riverview Ward			
Drawing Number	HE540039-CJV-EGN-SZP_EGNE00000000-DR-LE-80006		



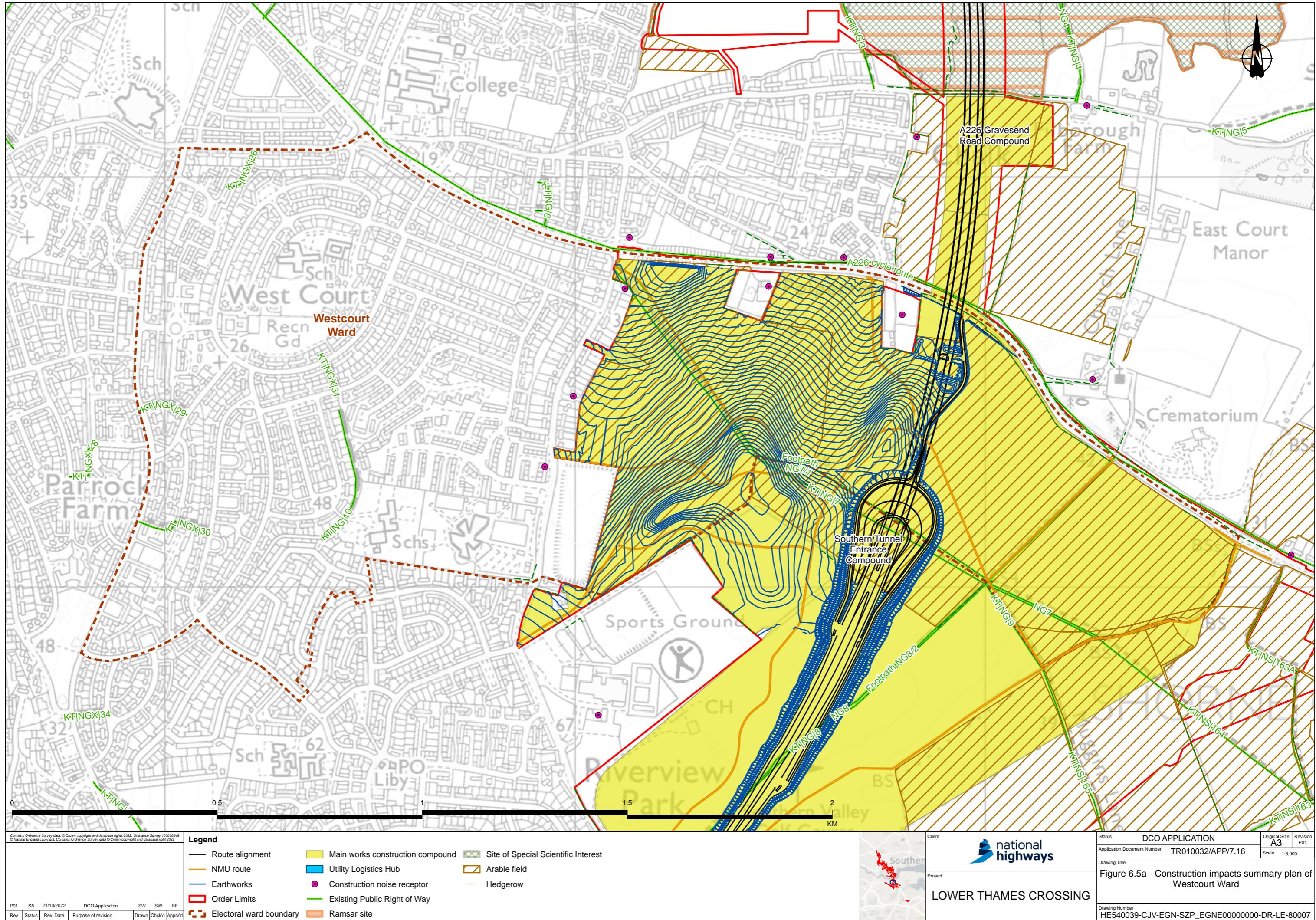
P01	S8	18/10/2022	DCO Application	SW	SW	BF
Rev	Status	Rev. Date	Purpose of revision	Drawn	Chk'd	Apprv'd

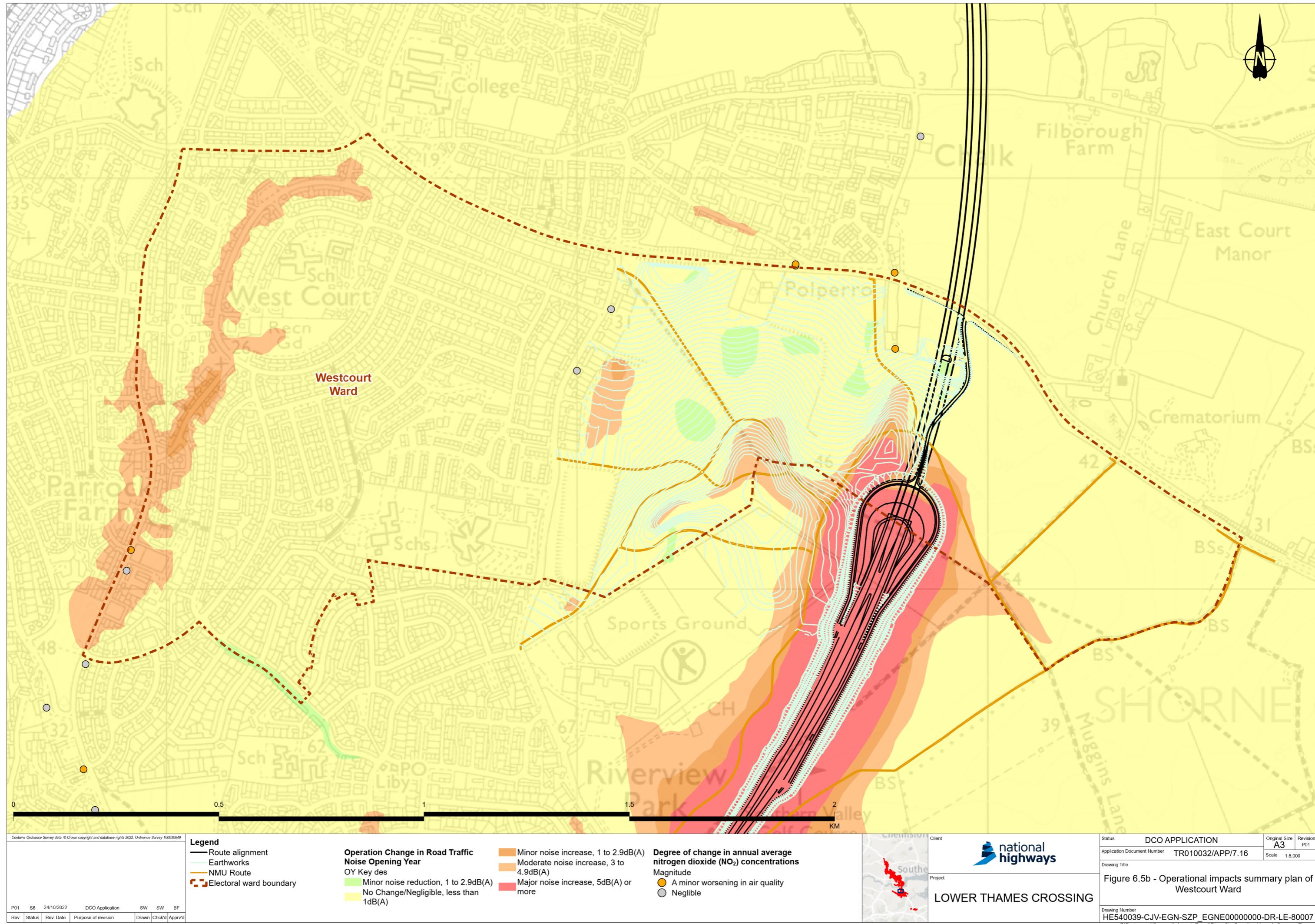
LE1.4 Rock and Scree	LE4.3 Native Species Hedge (Untrimmed)
LE2.7 Scattered Trees	Planting
LE2.8 Scrub	LE6.2 Banks and Ditches (Polygon)
LE2.11 Woodland with Non-Native Species	LE6.4 Wet Grassland
LE2.22 Scrub Woodland	LE6.11 Water Bodies - Standing Water

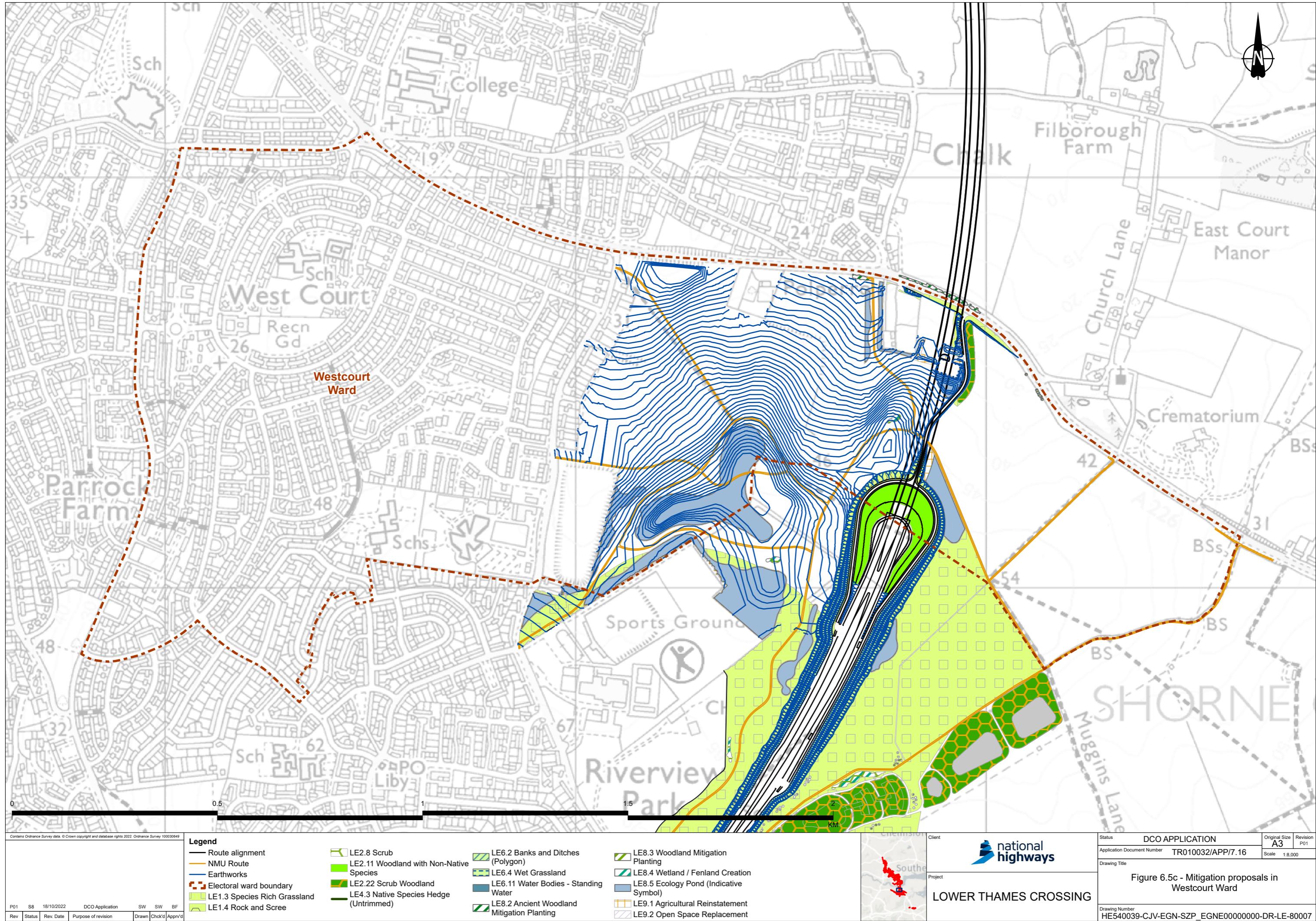
LE8.3 Woodland Mitigation	LE8.4 Wetland / Fenland Creation
Planting	LE6.5 Ecology Pond (Indicative Symbol)
LE6.2 Banks and Ditches (Polygon)	LE6.4 Wet Grassland
LE6.4 Wet Grassland	LE6.11 Water Bodies - Standing Water
LE6.11 Water Bodies - Standing Water	LE9.1 Agricultural Reinstatement
LE9.1 Agricultural Reinstatement	LE9.2 Open Space Replacement

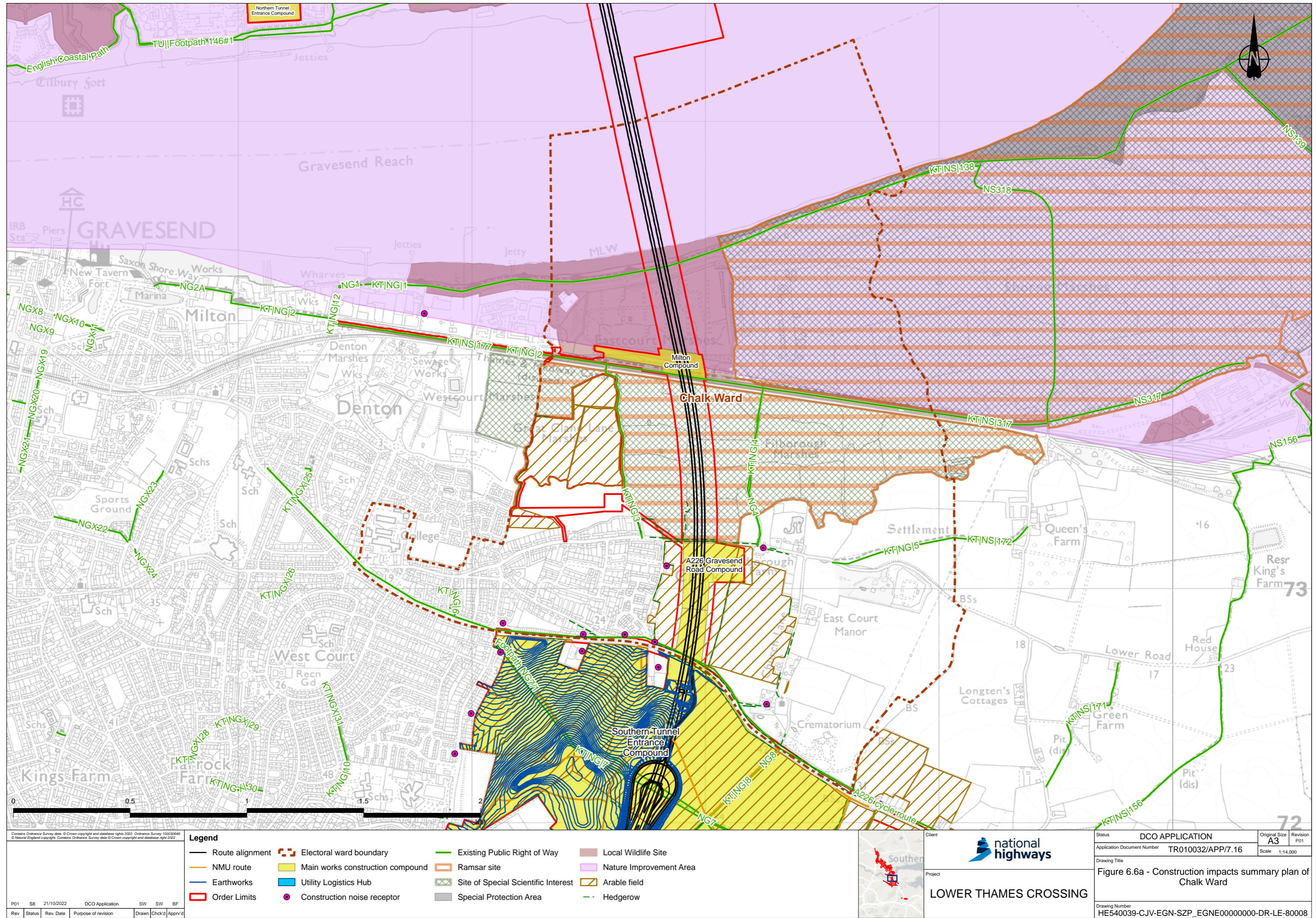
**Client:** national highways  
**Project:** LOWER THAMES CROSSING

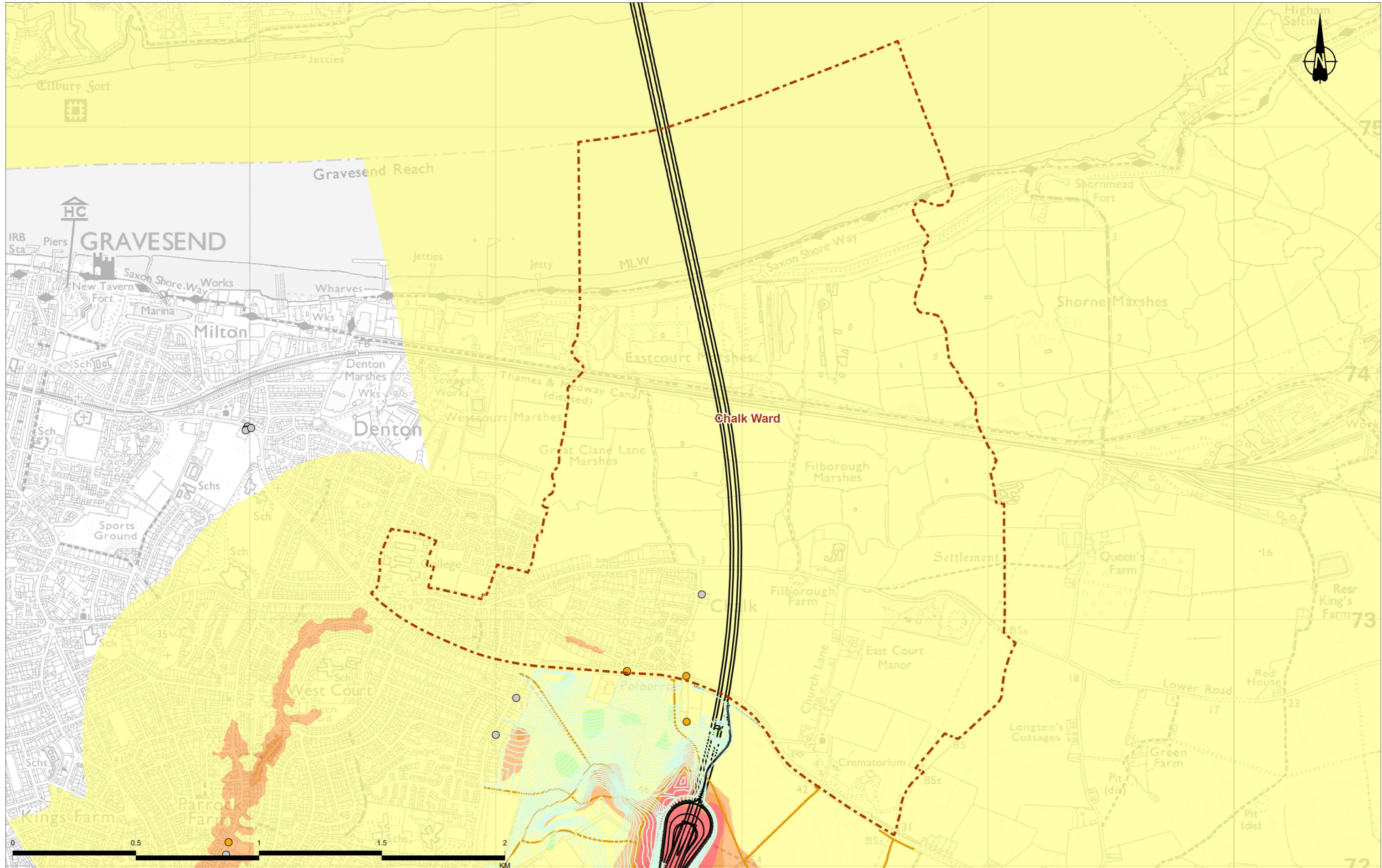
Status	DCO APPLICATION	Original Size	Revision
	TR010032/APP/7.16	A3	P01
		Scale 1:6,000	
<b>Drawing Title:</b>			Figure 6.4c - Mitigation proposals in Riverview Ward
<b>Drawing Number:</b>			HE540039-CJV-EGN-SZP_EGN00000000-DR-LE-80006
Z:\Environment\Community Impacts Report\Figure 6c - Mitigation Proposals.aprx			











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

**Legend**

- Route alignment
- Earthworks
- NMU Route
- Electoral ward boundary

**Operation Change in Road Traffic Noise Opening Year**

Impact Category	Opening Year
Minor noise increase, 1 to 2.9dB(A)	2024
Moderate noise increase, 3 to 4.9dB(A)	2024
No Change/Negligible, less than 1dB(A)	2024

**OY Key des**

Impact Category	Opening Year
Minor noise reduction, 1 to 2.9dB(A)	2024
No Change/Negligible, less than 1dB(A)	2024

**Degree of change in annual average nitrogen dioxide (NO<sub>2</sub>) concentrations Magnitude**

Magnitude	Impact Description
A minor worsening in air quality	Major noise increase, 5dB(A) or more
Negligible	Minor noise reduction, 1 to 2.9dB(A)

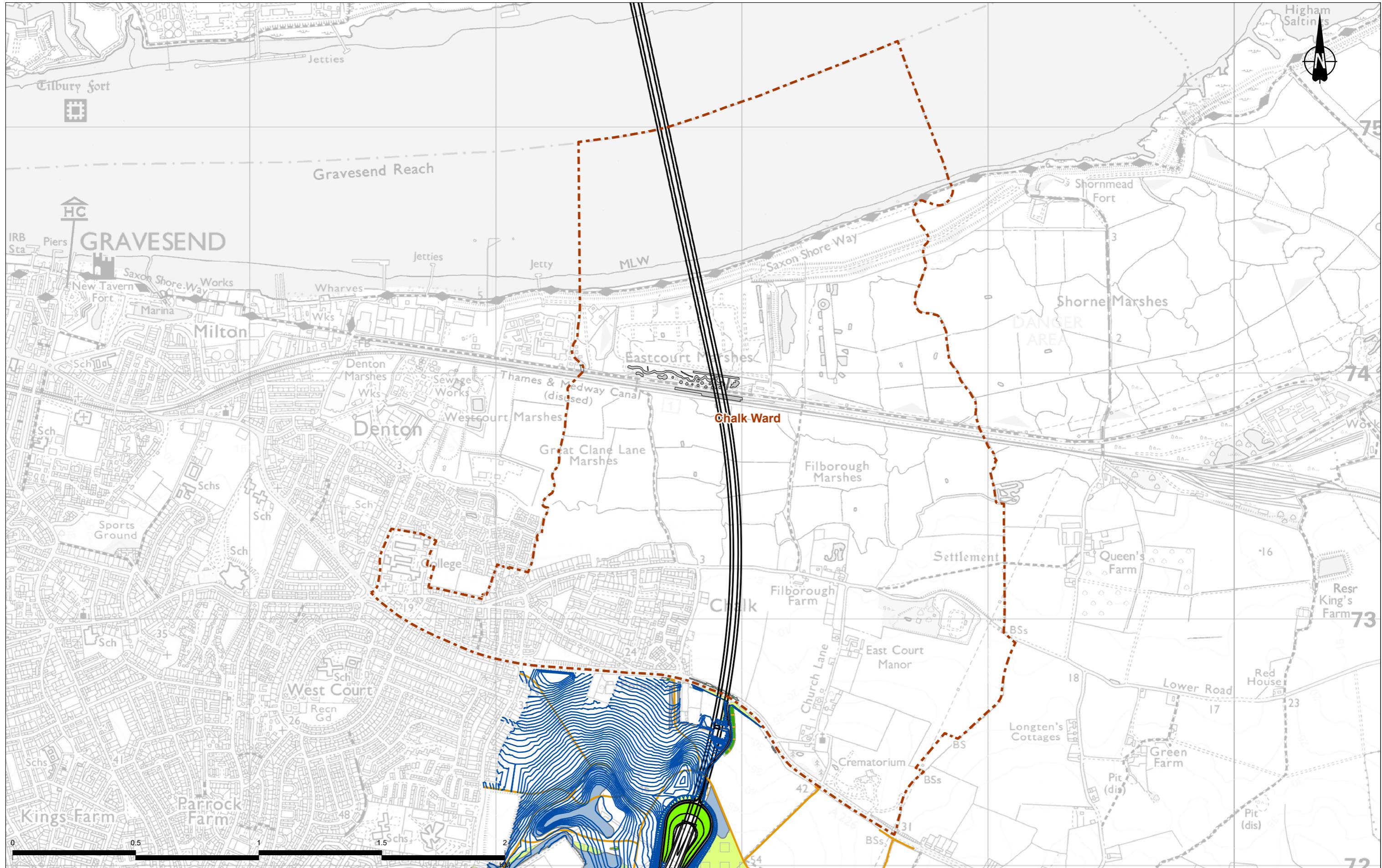
P01 S8 24/10/2022 DCO Application SW SW BF

Rev Status Rev Date Purpose of revision Drawn Chkd Apprvd



LOWER THAMES CROSSING

**Status** DCO APPLICATION **Original Size** A3 **Revision** P01  
**Application Document Number** TR010032/APP/7.16 **Scale** 1:14,000  
**Drawing Title**  
**Project** Figure 6.6b - Operational impacts summary plan of Chalk Ward  
**Drawing Number** HE540039-CJV-EGN-SZP\_EGNE00000000-DR-LE-80008  
Z:\Environment\Community Impacts Report\Figure 6b - Operational Impacts Summary Plan.aprx

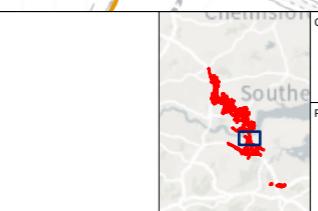


Contains Ordnance Survey data. © Crown copyright and database rights 2022. Ordnance Survey 100030649

Legend	
— Route alignment	LE2.8 Scrub
— NMU Route	LE2.11 Woodland with Non-Native Species
— Earthworks	LE2.22 Scrub Woodland
— Electoral ward boundary	LE1.3 Species Rich Grassland
—	LE4.3 Native Species Hedge (Untrimmed)
—	LE1.4 Rock and Scree

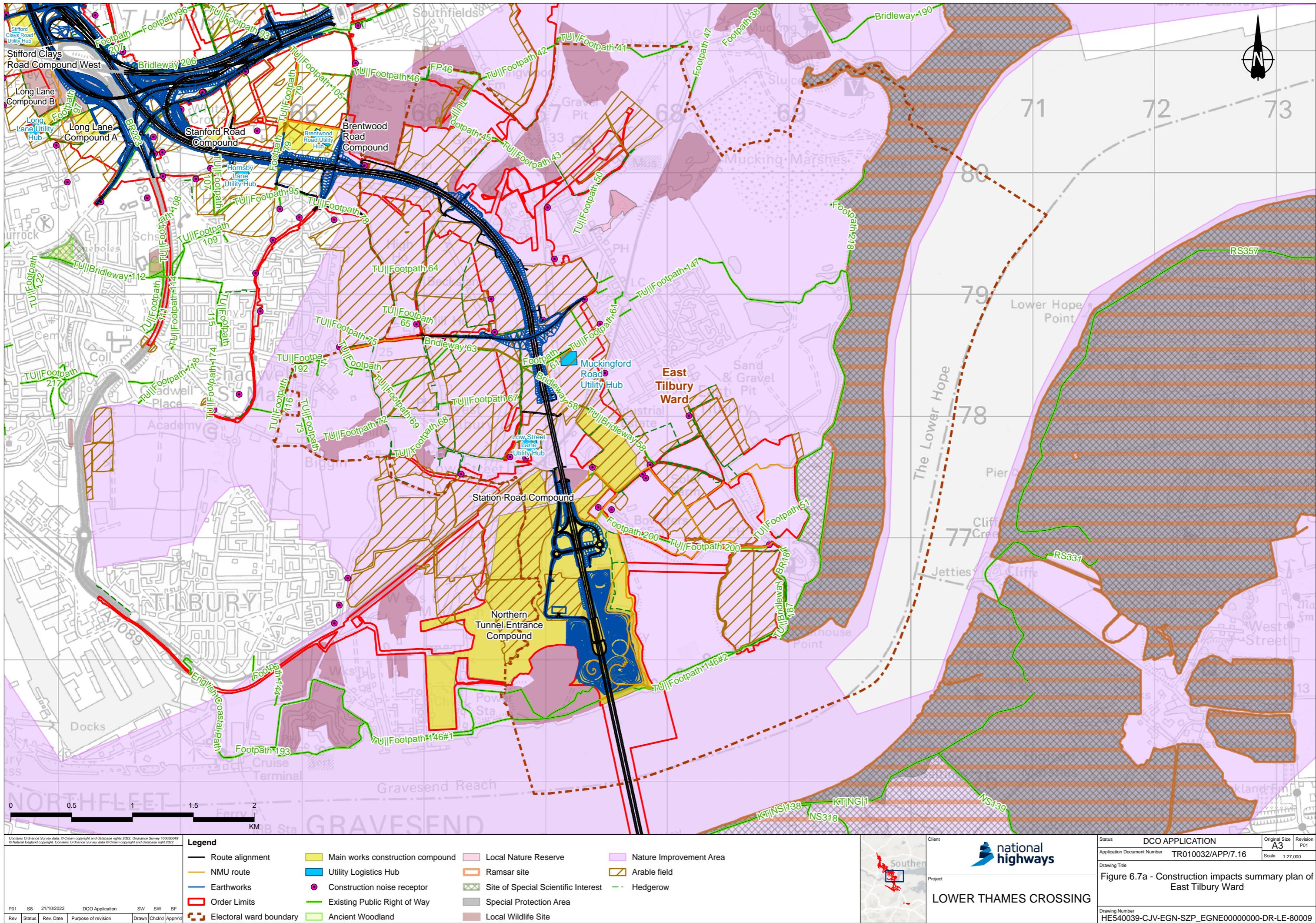
LE2.8 Scrub	LE4.4 Native Hedgerow with Trees
LE2.11 Woodland with Non-Native Species	LE6.2 Banks and Ditches (Polygon)
LE2.22 Scrub Woodland	LE6.4 Wet Grassland
LE1.3 Species Rich Grassland	LE9.1 Agricultural Reinstatement
LE4.3 Native Species Hedge (Untrimmed)	LE9.2 Open Space Replacement
LE1.4 Rock and Scree	Mitigation Planting

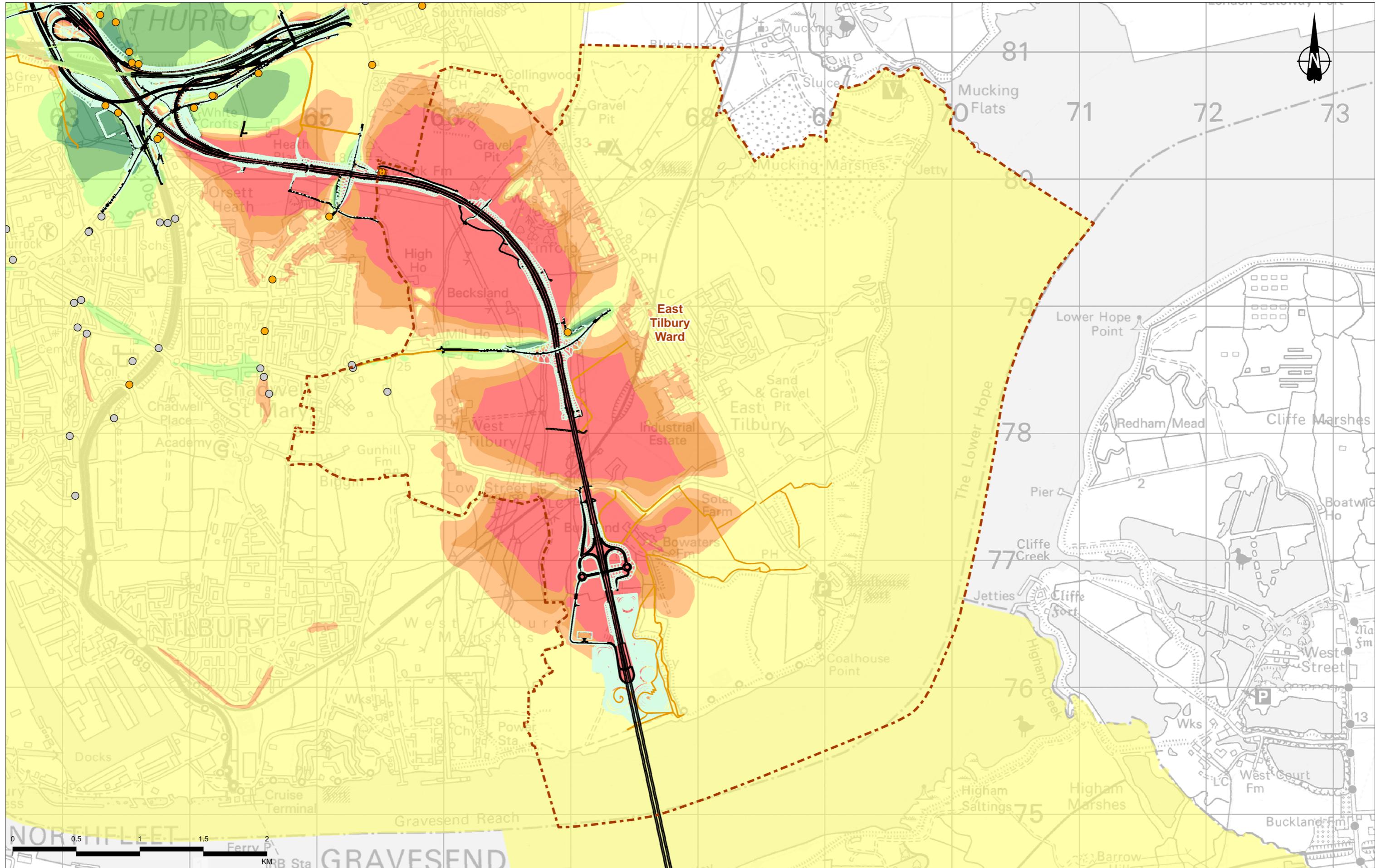
LE8.4 Wetland / Fenland Creation
LE6.5 Ecology Pond (Indicative Symbol)
LE8.2 Ancient Woodland
Mitigation Planting



Client: **national highways**  
Project: LOWER THAMES CROSSING

Status	DCO APPLICATION	Original Size
P01	Application Document Number TR010032/APP/7.16	Revision P01
		Scale 1:14,000
Drawing Title		
Figure 6.6c - Mitigation proposals in Chalk Ward		
Drawing Number HE540039-CJV-EGN-SZP_EGN00000000-DR-LE-80008		
Z:\Environment\Community Impacts Report\Figure 6c - Mitigation Proposals.aprx		





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

**Legend**

- Route alignment
- Earthworks
- NMU Route
- Electoral ward boundary

**Operation Change in Road Traffic Noise Opening Year**

OY Key des

- Major noise reduction, 5dB(A) or more
- Moderate noise reduction, 3 to 4.9dB(A)

**Degree of change in annual average nitrogen dioxide (NO<sub>2</sub>) concentrations**

Magnitude

- A minor worsening in air quality
- Negligible

P01 S8 24/10/2022 DCO Application SW SW BF

Rev

Status

Rev Date

Purpose of revision

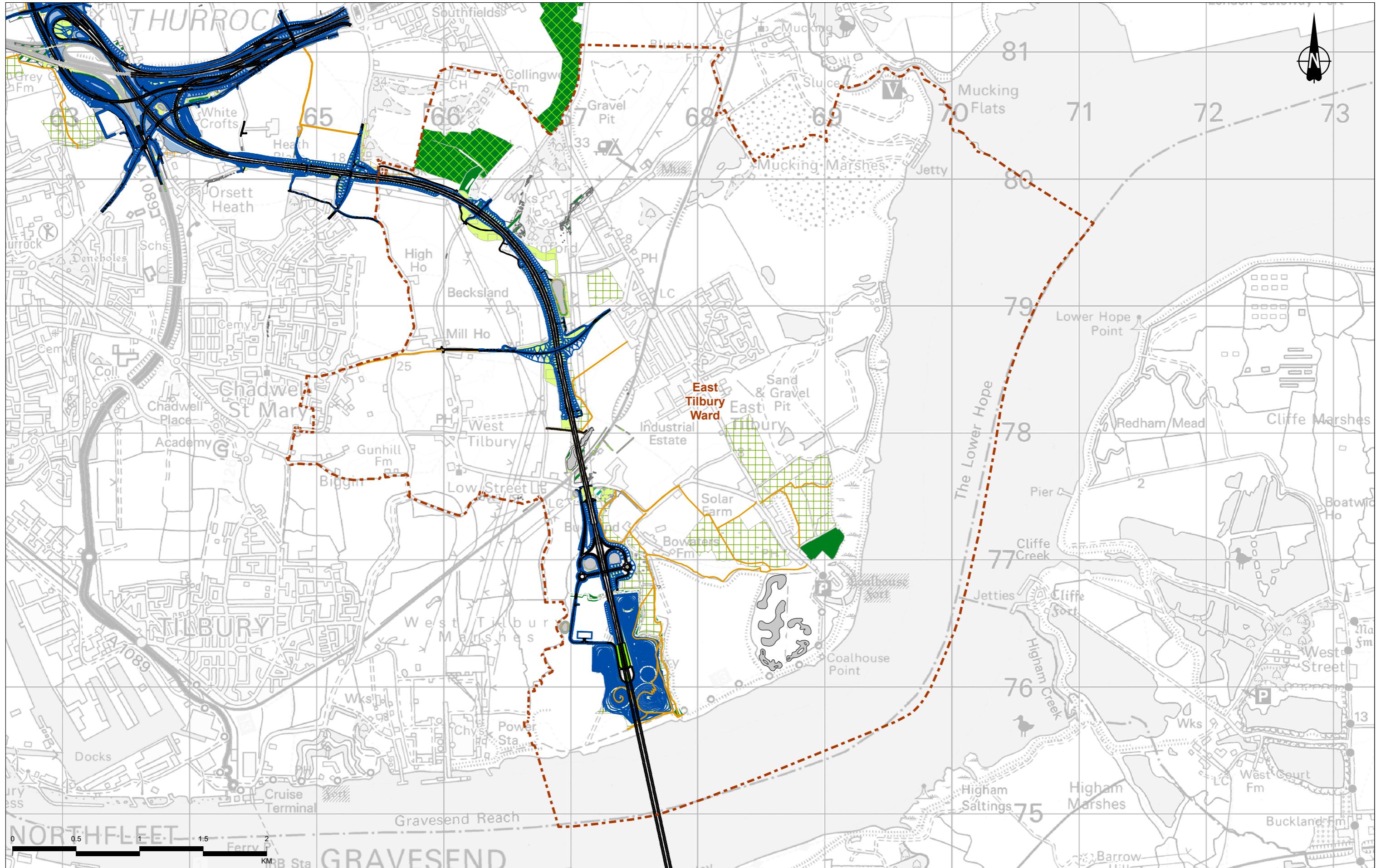
Drawn

Chkd

Apprvd



**DCO APPLICATION**  
Original Size A3  
Revision P01  
Application Document Number TR010032/APP/7.16  
Scale 1:27,000  
Drawing Title  
**Figure 6.7b - Operational impacts summary plan of Lower Thames Crossing**  
Drawing Number HE540039-CJV-EGN-SZP\_EGNE00000000-DR-LE-80009  
Z:\\Environment\\Community Impacts Report\\Figure 6b - Operational Impacts Summary Plan.aprx



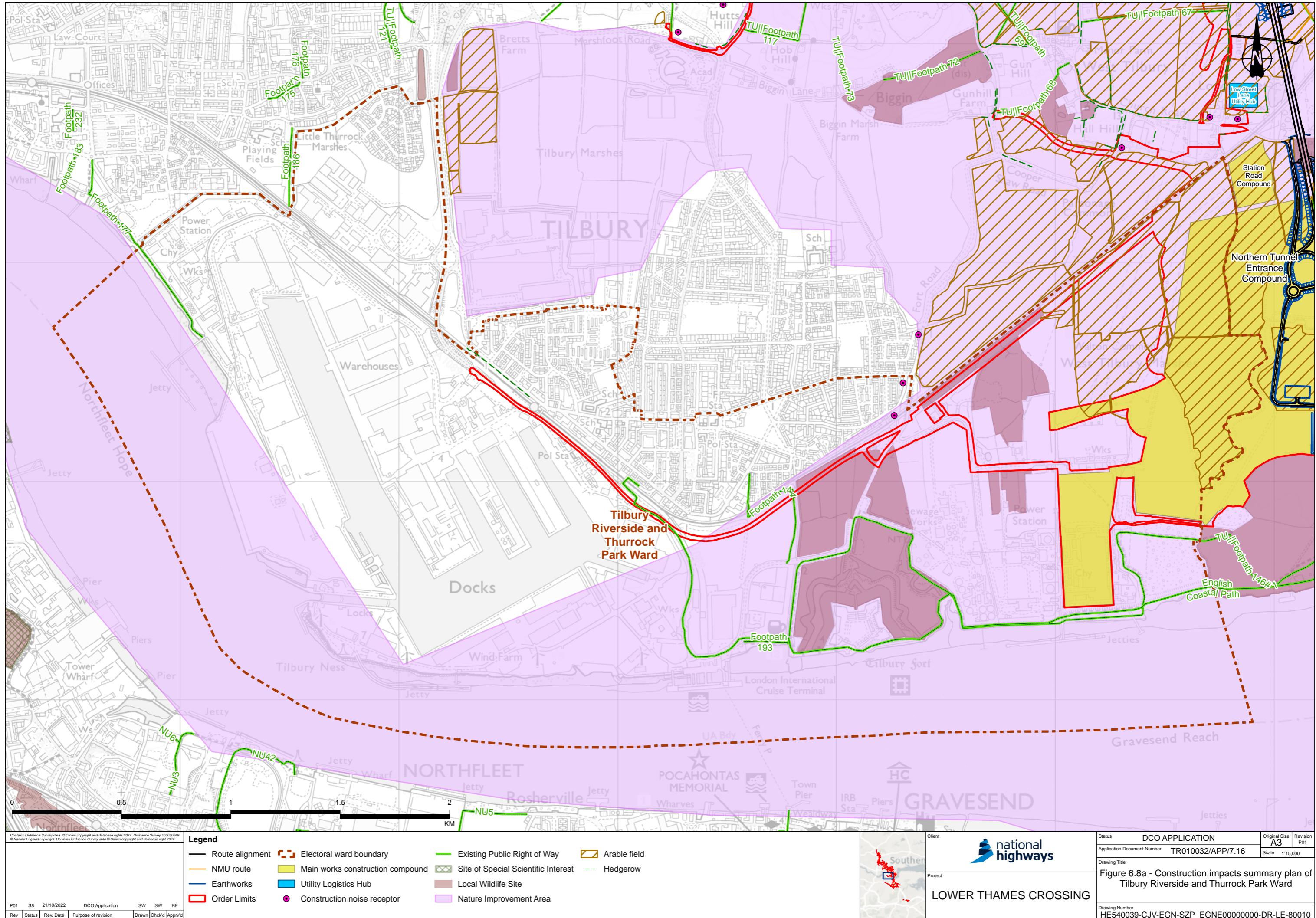
Contains Ordnance Survey data. © Crown copyright and database rights 2022. Ordnance Survey 10003649

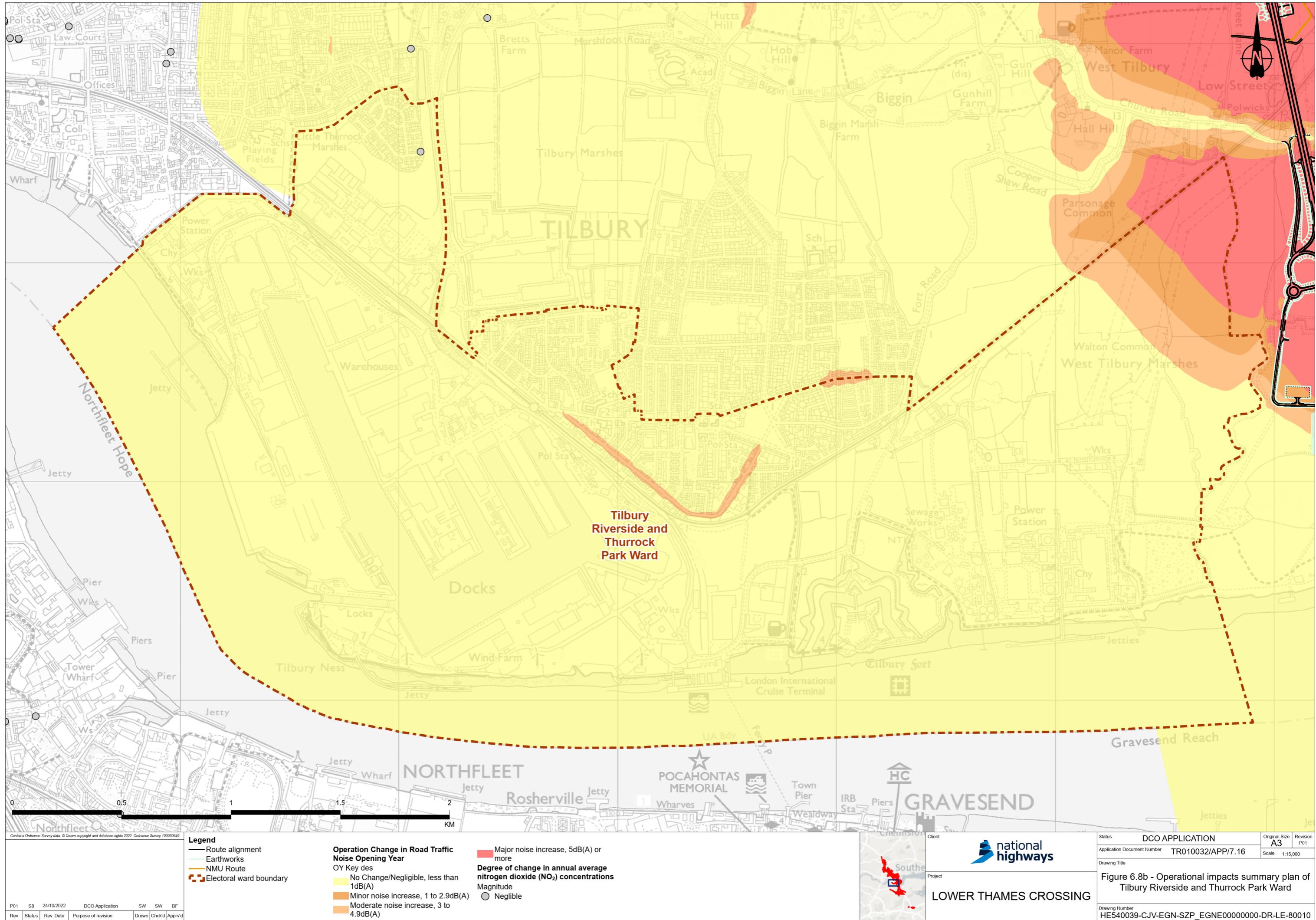
Legend	
— Route alignment	■ LE2.2 Woodland Edge
— NNU Route	■ LE2.11 Woodland with Non-Native Species
— Earthworks	■ LE2.4 Linear Belt of Shrubs and Trees
— Electoral ward boundary	■ LE2.22 Scrub Woodland
— Acoustic barrier	■ LE2.5 Shrubs with Intermittent Trees
— LE1.3 Species Rich Grassland	■ LE2.7 Scattered Trees
— LE2.1 Native Woodland	■ LE2.8 Scrub
Rev	■ LE5.1 Individual Trees
S8	■ LE6.4 Wet Grassland
18/10/2022	■ LE8.1 Open Mosaic Habitat
DCO Application	■ LE8.2 Ancient Woodland
SW	■ LE8.3 Woodland Mitigation Planting
SW	■ LE8.4 Wetland / Fenland Creation
BF	■ LE8.5 Ecology Pond (Indicative Symbol)
	■ LE8.6 Translocated Acid Grassland
	■ LE9.1 Agricultural Reinstatement

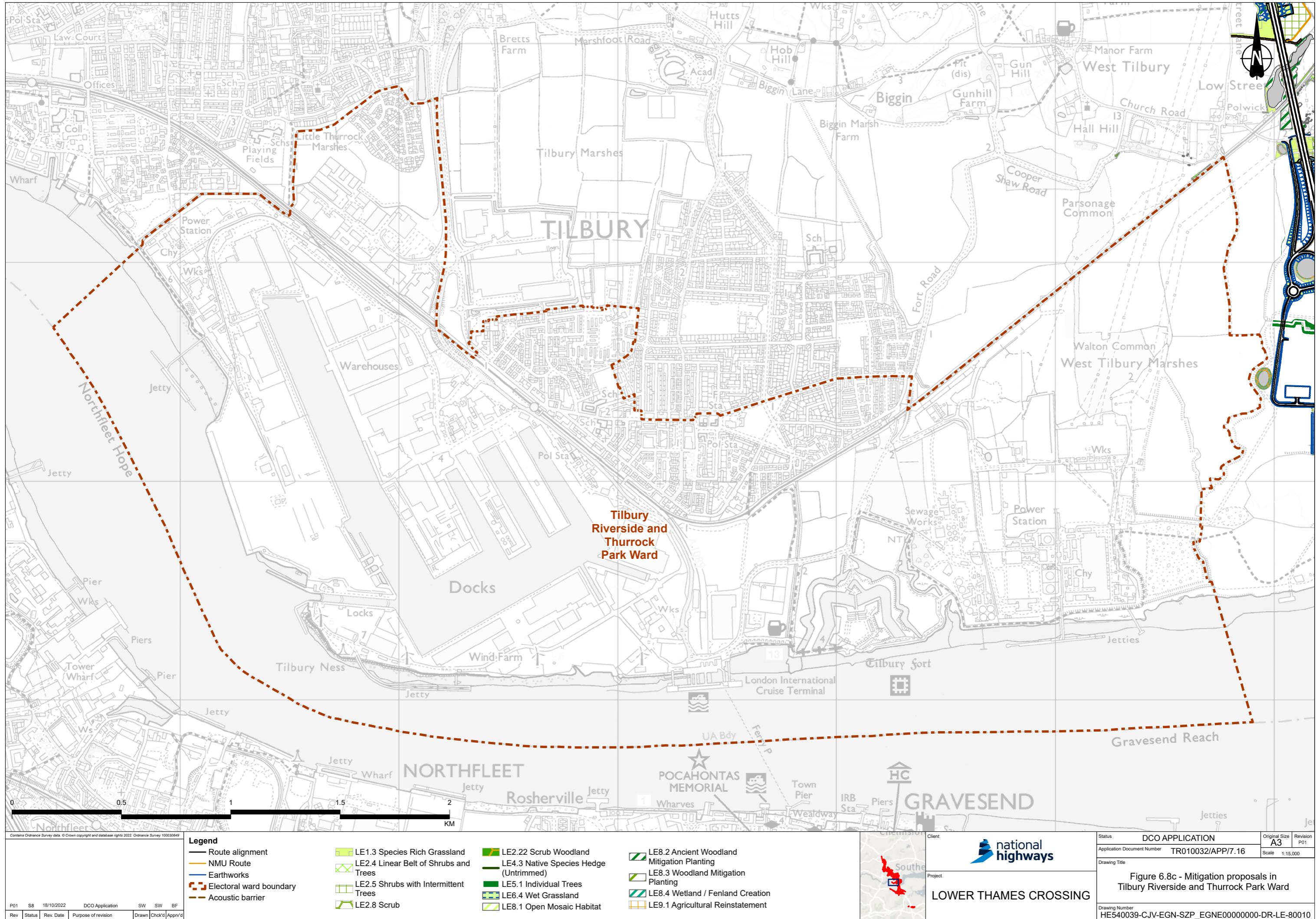
Rev	Status	Rev. Date	Purpose of revision	Drawn	Chkd	Apprv'd
P01	S8	18/10/2022	DCO Application	SW	SW	BF

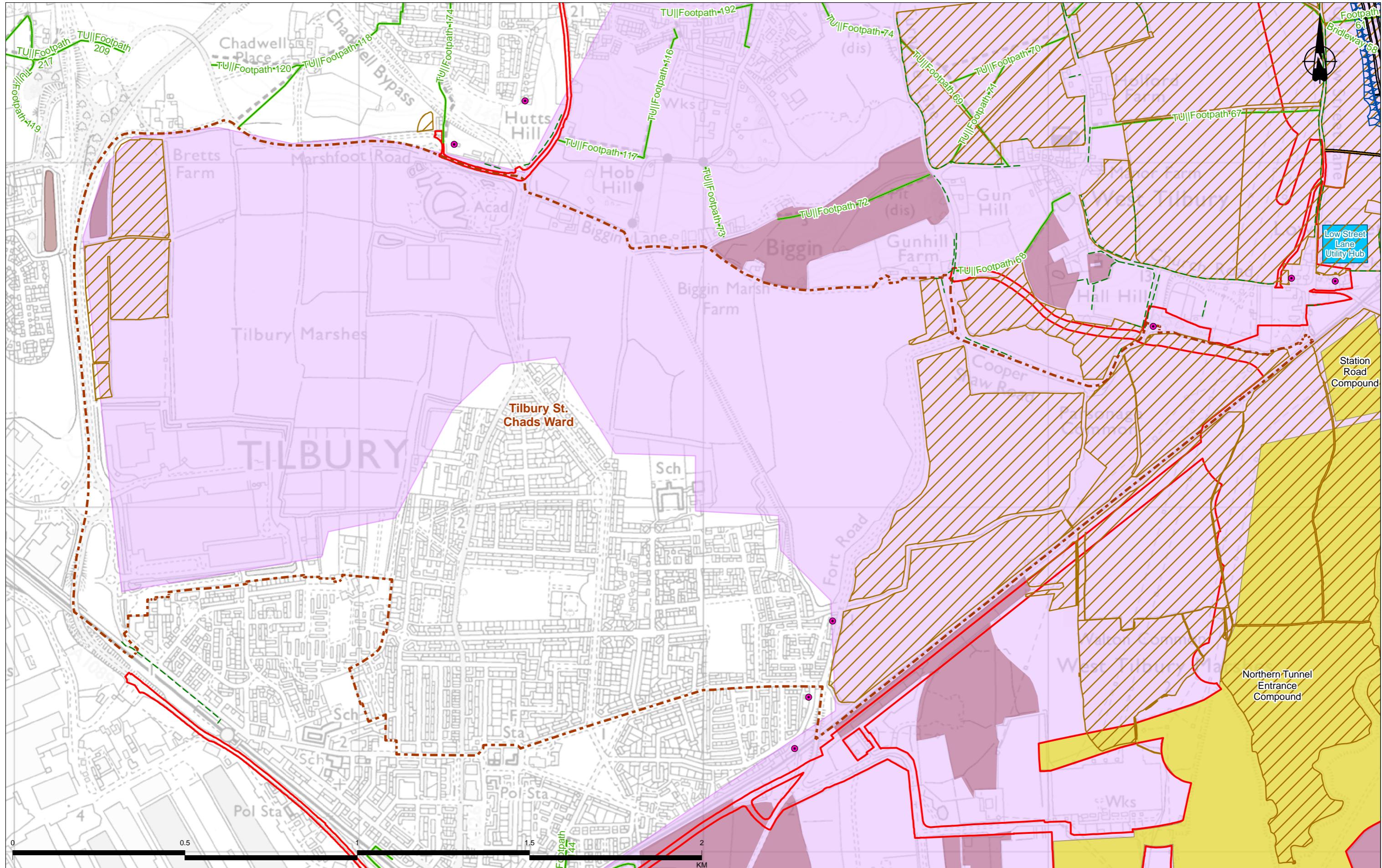
Client	Project
	LOWER THAMES CROSSING

Status	DCO APPLICATION	Original Size	Revision
Application Document Number	TR010032/APP/7.16	A3	P01
Scale	1:27,000		
Drawing Title			
Figure 6.7c - Mitigation proposals in East Tilbury Ward			
Drawing Number	HE540039-CJV-EGN-SZP_EGNE00000000-DR-LE-80009		









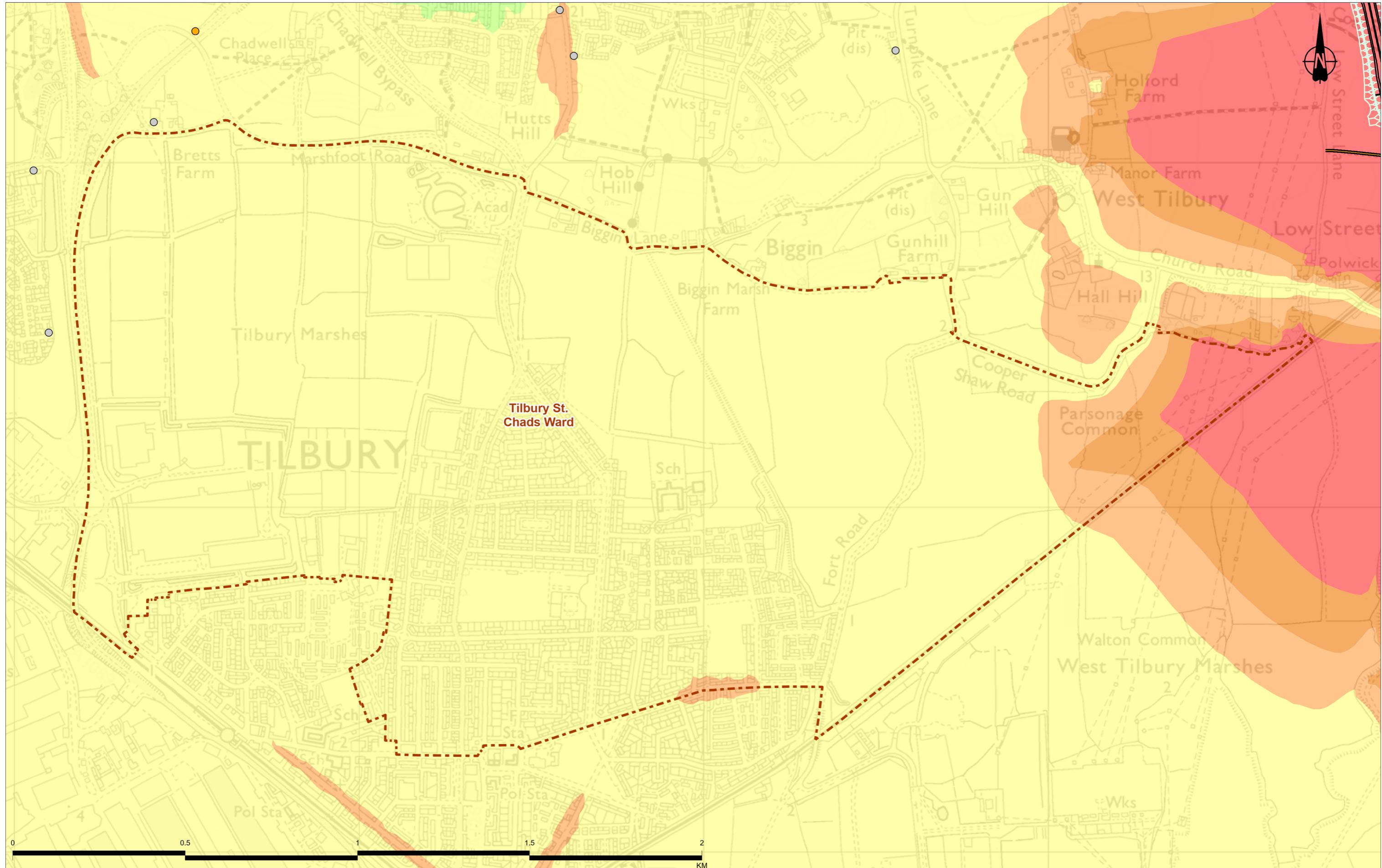
Contains Ordnance Survey data. © Crown copyright and database rights 2022. Ordnance Survey 10003649  
© Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right 2022

#### Legend

- Route alignment
- NMU route
- Earthworks
- Order Limits
- Existing Public Right of Way
- Electoral ward boundary
- Main works construction compound
- Utility Logistics Hub
- Hedgerow
- Construction noise receptor
- Arable field
- Local Wildlife Site

P01 S8 21/10/2022 DCO Application SW SW BF  
Rev Status Rev. Date Purpose of revision Drawn Chkd Apprv'd

						Client	DCO APPLICATION	Original Size	Revision
							Application Document Number	TR010032/APP/7.16	P01
							Drawing Title	Figure 6.9a - Construction impacts summary plan of Tilbury St. Chads Ward	
							Drawing Number	HE540039-CJV-EGN-SZP_EGNE00000000-DR-LE-80011	
Rev	Status	Rev. Date	Purpose of revision	Drawn	Chkd	Apprv'd			
LOWER THAMES CROSSING									



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

Rev	S8	24/10/2022	DCO Application	SW	SW	BF
P01	Status	Rev Date	Purpose of revision	Drawn	Chkd	Apprvd

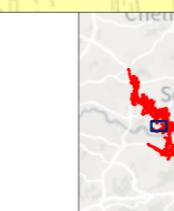
**Operation Change in Road Traffic Noise Opening Year**

OY Key des

- Green: Minor noise reduction, 1 to 2.9dB(A)
- Yellow: No Change/Negligible, less than 1dB(A)
- Orange: Moderate noise increase, 3 to 4.9dB(A)
- Red: Major noise increase, 5dB(A) or more

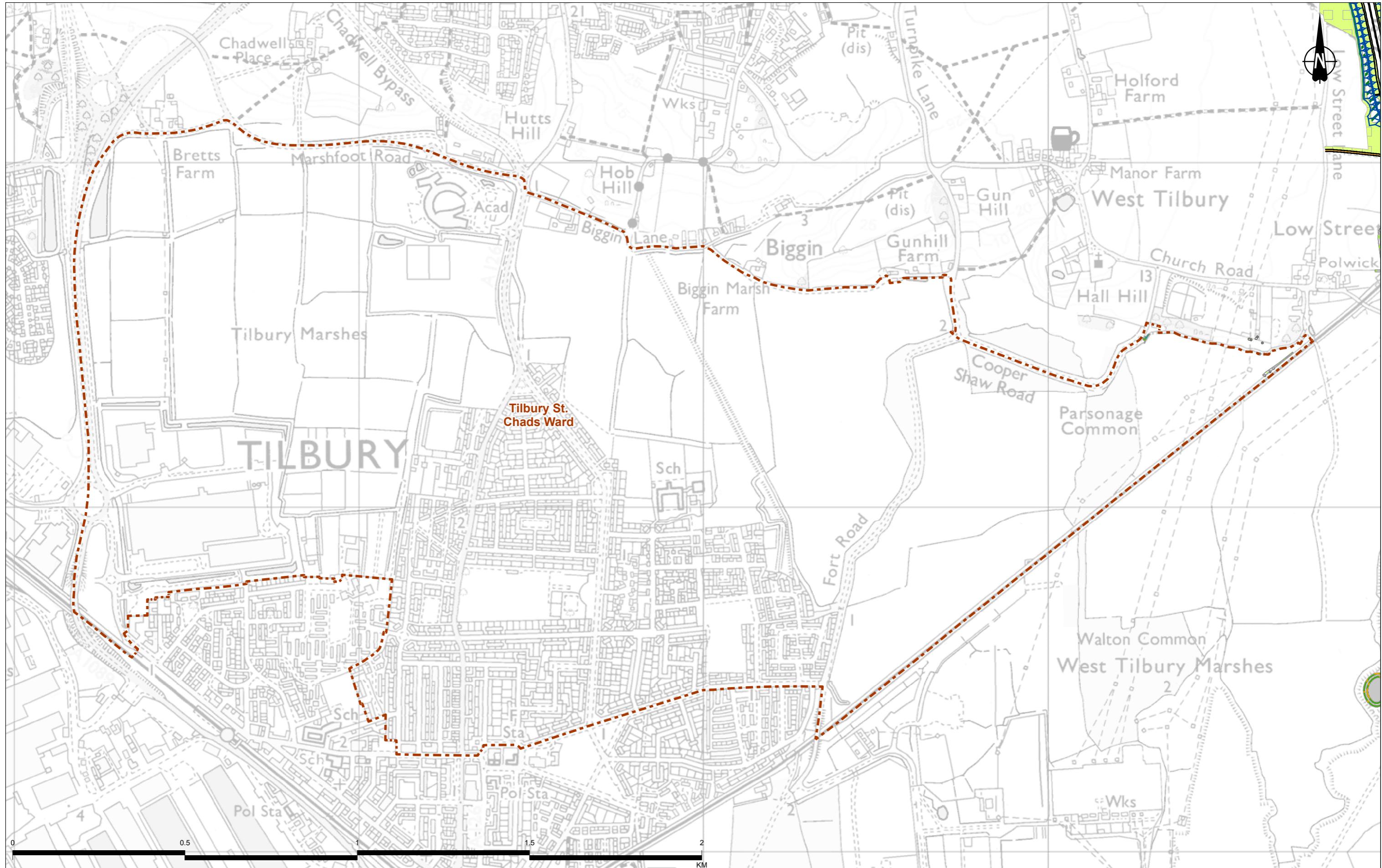
**Degree of change in annual average nitrogen dioxide ( $\text{NO}_2$ ) concentrations Magnitude**

- Yellow: A minor worsening in air quality
- Grey: Negligible



**Client**  
**national highways**  
**Project**  
**LOWER THAMES CROSSING**

Status	DCO APPLICATION	Original Size	Revision
Application Document Number	TR010032/APP/7.16	A3	P01
Drawing Title		Scale 1:10,000	
Figure 6.9b - Operational impacts summary plan of Tilbury St. Chads Ward			
Drawing Number	HE540039-CJV-EGN-SZP_EGNE00000000-DR-LE-80011		



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

Legend	
— Route alignment	LE2.4 Linear Belt of Shrubs and Trees
— NMU Route	LE4.3 Native Species Hedge (Untrimmed)
— Earthworks	LE2.8 Scrub
— Electoral ward boundary	LE2.22 Scrub Woodland
— LE1.3 Species Rich Grassland	LE5.1 Individual Trees
	LE6.4 Wet Grassland
	LE8.1 Open Mosaic Habitat
	LE8.2 Ancient Woodland Mitigation Planting
	LE8.3 Woodland Mitigation Planting
	LE8.4 Wetland / Fenland Creation

P01 S8 18/10/2022 DCO Application SW SW BF

Rev

Status

Rev. Date

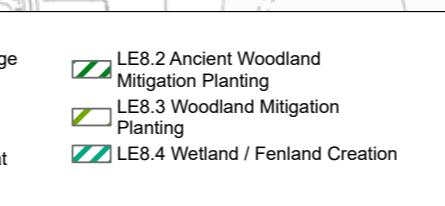
Purpose of revision

Drawn

Chk'd

Apprv'd

LE2.4 Linear Belt of Shrubs and Trees	LE4.3 Native Species Hedge (Untrimmed)
LE2.8 Scrub	LE5.1 Individual Trees
LE2.22 Scrub Woodland	LE6.4 Wet Grassland
LE1.3 Species Rich Grassland	LE8.1 Open Mosaic Habitat
	LE8.2 Ancient Woodland Mitigation Planting
	LE8.3 Woodland Mitigation Planting
	LE8.4 Wetland / Fenland Creation



LOWER THAMES CROSSING



DCO APPLICATION		Original Size	Revision
Application Document Number	TR010032/APP/7.16	A3	P01
Drawing Title		Scale	1:10,000
Figure 6.9c - Mitigation proposals in Tilbury St. Chads Ward			
Drawing Number			HE540039-CJV-EGN-SZP_EGN00000000-DR-LE-80011
Z:\Environment\Community Impacts Report\Figure 6c - Mitigation Proposals.aprx			

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

© Crown copyright 2023.

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

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

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

Mapping (where present): © Crown copyright and database rights 2023 OS 100030649. You are permitted to use this data solely to enable you to respond to, or interact with, the organisation that provided you with the data. You are not permitted to copy, sub-licence, distribute or sell any of this data to third parties in any form.

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

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

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

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

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

National Highways Limited registered in England and Wales number 09346363