



Route Requirements Document Thurrock District Phase 1 & 2 TWAO – Mainline & Branchline

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Prepared by : Asset Engineer (level crossings)


Date: 21st January 2015
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Checked by : Liability Negotiations Adviser


Date: 21st January 2015
Steve Day

Approved by : Sponsor



Date: 21st January 2015
Sean Cronin

Accepted by : Route Enhancement Manager



Date: 22nd January 2015
Colin Conway

Optional Signatories

**Endorsed by : Director of Route Asset
Management**


Date: 31/01/2015
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Endorsed by : Level Crossing Manager GE


Date: 10/02/2015
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Document History

Issue	Date	Originator	Modification
1.0	21-01-15	Andy Kenning	Initial Issue

Endorsement

The information contained within this Route Requirements Document has been produced with the approval of the following Route Asset Managers:

Discipline	Name	Title	Signature	Date
Earthworks	Ian Payne	Senior Asset Engineer	Not required for this RRD as no gauging is involved.	n/a
E & P	Carl Hunt	Route Asset Manager		
Gauging	Steve Valentine	Senior Asset Engineer	Not required for this RRD as no gauging is involved.	n/a
Signalling	Mike Essex	Route Asset Manager		
Structures	Anthony Dewar	Route Asset Manager	Not required for this RRD as no gauging is involved.	n/a
Telecoms	Andy Coleman	Senior asset Engineer		
Track	Nigel Wilson	Route Asset Manager		

Contents

1	Purpose	5
1.1	Background Information	5
1.2	Stakeholders	5
2	General Description of the Route	6
2.1	Route Objectives (Problem Statement).....	6
2.2	Route Definition.....	6
2.3	Boundaries and Relationships	7
2.4	Assumptions, Dependencies, Constraints & Risks	8
2.4.1	Assumptions	8
2.4.2	Dependencies	8
2.4.3	Constraints.....	8
2.4.4	Risks	8
2.5	Whole Life Cost Analysis	8
2.6	Route Key Milestones and Configuration States.....	8
2.7	Route Acceptance Strategy	9
2.8	Route Security Assessment	9
3	Route Requirements.....	10
3.1	Deliverables	10
3.2	Safety Requirements.....	10
3.3	General Scheme - Requirements.....	11
3.4	Network Rail Asset Requirements E&P	13
3.5	Network Rail Asset Requirements Signalling.....	14
3.6	Network Rail Asset Requirements Track	15
3.7	Network Rail Asset Requirements Telecoms.....	16
3.8	Operational Requirements	16
3.9	Performance Requirements	17

3.10	Environmental Requirements	18
3.11	Reliability, Availability, Maintainability Requirements	18
3.12	Maintenance Requirements.....	18
Appendix A – Deliverables		20
Appendix B – References		20
Appendix C - Glossary		20
Appendix D - Whole Life Cost Analysis		20
Appendix E - Additional Information.....		20

1 Purpose

The purpose of this RRD is to further develop the opportunity to close level crossings on Anglia Route within the Thurrock unitary authority area in the ceremonial county of Essex. This RRD is to cover crossings that can be diverted or extinguished without the need to build bridges or large structures. These diversions or extinguishments shall be carried out using compulsory powers obtained by means of a Transport & Works Act Order.

1.1 Background Information

An over arching CRD has been produced to explain in detail the Anglia Route strategy for achieving a crossing reduction in CP5. This also explains the different phases of the strategy, separate RRDs are to be produced for each county (in this case the unitary body area of Thurrock).

1.2 Stakeholders

The following stakeholders have been identified:

Name	Role	Contact
Thurrock (Unitary authority)	Highway authority	Paula Watts pwatts@thurrock.gov.uk
Office of Rail Regulator	Governing Body	Tom Wake 07798932452 Tom.Wake@orr.gsi.gov.uk
Environment Agency	Statutory consultee (flood risk etc.)	corperate.services@environment-agency.gov.uk
Natural England	Statutory consultee (environment)	consultations@naturalengland.org.uk
Steve Day	Liabilities Negotiations Advisor	07515624312
Katie Brown	Land Consents	07713301739
Hannah Briggs	Public Relations Manager	07850407340
Richard Schofield	Route Director (Anglia)	07880740567
Eliane Algaard	Director of Route Asset Management	07702913224
Carl Hunt	Route Asset Manager (E&P)	07733126578
Mike Essex	Route Asset Manager (Signalling)	07979540804
Nigel Wilson	Route Asset Manager (Track)	07767644024
Dave Flatman	Route Telecoms Engineer	07799864214
Shenel Bullock	Route Level Crossing Manager	07515626517
Mo Rosse	Level Crossing Manager	07713226927
Sean Cronin	Sponsor	07825969553
The Ramblers	User Group (walkers)	Varies extensively by district

Name	Role	Contact
Sustrans	User Group (promoting non-motorised transport)	Nigel Brigham (Regional) nigel.brigham@sustrans.org.uk Kris Radley (Essex) kris.radley@sustrans.org.uk
Essex Bridleways Association	User Group (equestrians)	Julia Wilson juliawilson012@hotmail.co.uk Mick Brash mickbrash@tiscali.co.uk
Open Spaces Society	User Group (promoting access to land)	Christine Hunter christinehunter@oss.gov.uk
Auto Cycle Union	User Group (motor vehicles)	admin@acu.org.uk

2 General Description of the Route

2.1 Route Objectives (Problem Statement)

Closure difficulties

Public footpaths and bridleways can be closed by rail crossing diversion or extinguishment orders (expedient in the interests of public safety) or normal public path orders (diversion to make more commodious/better serve the landowner/not necessary). However, all of these are subject to challenge which can result in public inquiry, where success is not guaranteed. This is therefore a risky and time-consuming strategy. The legal costs of a basic application are around £3k–4k.

All public highways can be closed or downgraded by application to a magistrate's court, on the grounds that they are not needed for public use, or should be diverted. Again, this is risky as there is no guarantee magistrates will agree to make an Order. Cost of an application about £3k.

2.2 Route Definition

The best way to close public highways is through a Transport and Works Act Order. In that way, all proposed changes and consents can be consulted in advance, bridges provided where appropriate, and we can argue using the greater public benefit of improved rail services.

Some of the crossings listed in this remit are affected by proposed speed increases and some are subject to increased freight traffic. The proposed freight traffic will utilise trains up to 775metres in length, this causes problems when held at signals where the train may standback over level crossings.

There are a number of footpath crossings throughout Essex County within Thurrock unitary body which have the opportunity to be diverted or extinguished from crossing the railway line at grade to a grade separated crossing point.

Each crossing listed in section 2.3 shall have the following assessments carried out and providing that it can be achieved, the next assessment shall be carried out;

Document Ref: Thur-P1&P2 TWAO		RRD
Issue: 1.0		
Date: 21st January 2015		
		Page: 6 of 25

1. The diversion assessed for build ability based on the potential users and their physical abilities. This may be determined by other physical features along the footpath such as the presence of stiles or steps.
2. Diversity impact assessment needs to be carried out (to be completed by Network Rail team).
3. A brief design shall be produced to capture the alterations required.
4. Land clearance application made and approved.
5. The cost of each diversion shall be created against the design. These costs shall include recovery of all the current crossing assets (including whistle boards if fitted) and making good the boundary fencing to ensure there are no trespass issues following the diversion. Costs shall also include if any alterations required to the OLE (this shall be indicative at this stage, AIP shall be produced at GRIP3).
6. Environmental impact assessment for the impact of the diversion / extinguishment / downgrading.
7. Pre-Consultation for the diversion / extinguishment.
8. It is assumed that the diversions can be carried out within the Network Rail land ownership boundary. If not then land owner consent will be required for route of public path.
9. If land consents are required a land search shall be completed to identify the land owner/s.

2.3 Boundaries and Relationships

Strategic Route:	D
Route Number:	
Operating Route:	Anglia
ELR and Mileage:	FSS, TLL
OS Ref:	
Asset Type:	Level crossing
Asset Address (if applicable):	

The crossings within this remit are as follows;

Phase 1 - Mainlines

Name	Location	Type	Status	Proposal
No Name No.131	TLL 15m 36ch	FPS	Public Footpath	Diversion
St Clements	TLL 18m 43ch	FPW	Public Footpath	Diversion
Gibbs Wharf	TLL 18m 67ch	FPW	Occupation	Extinguishment
Jefferies	TLL 28m 0ch	FPW	Public Footpath	Extinguishment & creation of new
Howells Farm	TLL30m 09ch	FPS	Public Footpath	Diversion

Phase 2 - Branchlines

Name	Location	Type	Status	Proposal
Footpath 190	THN 28m 6ch	FPX	Public Footpath	Diversion

Document Ref: Thur-P1&P2 TWAO		RRD
Issue: 1.0		
Date: 21st January 2015		
		Page: 7 of 25

The UPG line was also assessed but none of the crossings were considered appropriate for phases 1 & 2.

2.4 Assumptions, Dependencies, Constraints & Risks

2.4.1 Assumptions

Reference	Details
A-THUR-1	That the diversionary routes are buildable
A-THUR-2	That funding will be made available for the diversions to be built
A-THUR-3	That the diversions can be carried out within the existing Network Rail land ownership
A-THUR-4	Any required land consents will be available

2.4.2 Dependencies

Reference	Details
D-THUR-1	That Liabilities are able to support the TWAO application

2.4.3 Constraints

Reference	Details
C-THUR-1	This requirement is to be restricted to the County of Essex and the unitary body of Thurrock.
C-THUR-2	This remit is not to cover the construction of large structures such as bridges or underpasses.

2.4.4 Risks

Reference	Details
R-THUR-1	Not all the diversionary route will be buildable
R-THUR-2	That there may be alternative proposals from external stakeholders
R-THUR-3	That the secretary of State for Transport will not sign off the order

2.5 Whole Life Cost Analysis

Whole Life Cost Modelling (WLCM) will be applied to the later phases. Phases 1&2 do not need WLCM produced for them provided that the over all cost is equal to or less than the risk reduction cost.

Alterations to the Overhead Line Equipment (OLE) shall be subject to a Cost Benefit Analysis to understand the benefit in altering the OLE wire heights. This is to compare the options of altering a crossing at a time, or waiting until either wire renewals, or other improvement projects

2.6 Route Key Milestones and Configuration States

It is anticipated that Phase 1 & 2 crossings shall be identified by the end of CP5 year 1. During CP5 year 2 it is expected that Phase 1 & 2 crossings shall be developed into buildable solutions and costed. Key milestones would be;

Document Ref: Thur-P1&P2 TWAO		RRD
Issue: 1.0		
Date: 21st January 2015		
		Page: 8 of 25

- Conformation that the diversions are buildable
- Design for each diversion that is buildable
- Costs produced for each of the designed diversions

2.7 Route Acceptance Strategy

This scheme shall follow GRIP and acceptance for each stage shall be at each stage gate as shown in the project programme.

Once the diversions have been designed, consulted and costed they shall be presented to the Sponsor for acceptance and inclusion in the Transport & Works Order, before the completion of GRIP3. This will allow the Sponsor to 'group' projects into TWAO to keep costs down and provide a strategic approach to the TWAO application.

2.8 Route Security Assessment

Nothing identified at the time of writing.

**Route Requirements Document -
Thurrock District Phase 1 & 2 TWAO – Mainline & Branchline**



Req ID	Source Reference	Requirement and Heading	Priority	Acceptance Criteria	Supporting Information	Assumption
		3 Route Requirements				
		3.1 Deliverables				
RR-ThurP1&P2-1101	RAM/Sponsor	The deliverables listed in Appendix A shall be produced and delivered at the required GRIP stage.	High	Deliverables listed in Appendix A are produced to the satisfaction of the RAM / Sponsors at the identified GRIP stages.	None identified	None
		3.2 Safety Requirements				
RR-ThurP1&P2-1121	CR-CP5LX-1101	The Scheme shall be delivered in accordance with the Common Safety Method (CSM)	High	<ul style="list-style-type: none"> - Preliminary System Definition - CSM Assessment Completed and Category assigned - CSM Deliverables completed id the scheme deemed to be "significant change". 	None identified	None
RR-ThurP1&P2-1122	CR- CP5LX -1102	The scheme shall be delivered in accordance with the CDM Regulations	High	<ul style="list-style-type: none"> - Personnel (posts) are designated and responsibilities discharged - Demonstrable evidence of compliance is provided 	Construction (Design and Management) Regulations 1994	None

Document Ref: Thur-P1&P2 TWAO

Issue: 1.0

Date: 21st January 2015

RRD

Page: 10 of 25

**Route Requirements Document -
Thurrock District Phase 1 & 2 TWAO – Mainline & Branchline**



Req ID	Source Reference	Requirement and Heading	Priority	Acceptance Criteria	Supporting Information	Assumption
RR-ThurP1&P2-1123	CR- CP5LX -1103	All meetings in connection with this project shall have a standing agenda item of Safety at the beginning of each meeting.	High	Meeting agendas and minutes shall be held as part of the project documentation file.	None identified	None
RR-ThurP1&P2-1124	CR- CP5LX -1104	The closed level crossings shall be inaccessible to the public and appropriately fenced over.	High	Compliant to the Company standard for lineside fencing.	None identified	None
		3.3 General Scheme - Requirements				
RR-ThurP1&P2-1131	CR- CP5LX -1111	The Sponsor Instruction and Client Requirements Document Contents shall be adhered to.	High	Demonstrable evidence of compliance.	None identified	None
RR-ThurP1&P2-1132	CR- CP5LX -1112	The scheme shall be delivered in accordance with GRIP	High	Completed and approved GRIP stage gate at intervals laid down in the Sponsor Instruction.	None identified	None
RR-ThurP1&P2-1133	CR- CP5LX -1113	The diverted / extinguished rights of way shall be updated on the definitive maps for the county	High	Definitive map updated to show correct status.	None identified	None
RR-ThurP1&P2-1134	CR- CP5LX -1114	Design Guidance for Accessibility for Reduced Mobility shall be followed during early development and design.	High	All Accessibility requirements are provided (including step free access to new platforms and fire escape	None identified	Only used where access to a station is required

Document Ref: Thur-P1&P2 TWAO		RRD
Issue: 1.0		
Date: 21st January 2015		
		Page: 11 of 25

**Route Requirements Document -
Thurrock District Phase 1 & 2 TWAO – Mainline & Branchline**



Req ID	Source Reference	Requirement and Heading	Priority	Acceptance Criteria	Supporting Information	Assumption
				arrangements). Where this is not possible mitigation measures and safe systems must be provided.		
RR-ThurP1&P2-1135	CR- CP5LX -1115	Governing act regarding equality. In relation to this project particular attention must be given to provide access for those with reduced mobility and sight.	High	Demonstrable evidence of compliance and inclusion in development and design.	None identified	None
RR-ThurP1&P2-1136	CR- CP5LX -1116	New footpath widths shall be 2metres wide as a minimum	High	New path to be of the minimum width.	None identified	None
RR-ThurP1&P2-1137	CR- CP5LX -1117	Any new bridleway paths shall be 3metres wide as a minimum	High	New path to be of the minimum width.	None identified	None
RR-ThurP1&P2-1138	CR- CP5LX -1118	Any footpath crossing that appears to have been abandoned shall be planned to be extinguished in phase 1 or phase 2.	High	No abandoned footpaths left on the Anglia Route.	None identified	None
RR-ThurP1&P2-1139	CR- CP5LX -1119	Any footpath / bridleway crossing that have a near and practical alternative crossing point that provides a better level of protection shall be diverted in phase 1 or phase 2.	High	No footpaths / bridleways are left remaining when there is a close by alternative crossing point.	None identified	None
RR-ThurP1&P2-1140	CR- CP5LX -1120	Any footpath / bridleway that can not be removed from the railway network in phase 1 or	Medium	Footpath / bridleways that were not extinguished or	None identified	None

Document Ref: Thur-P1&P2 TWAO		RRD
Issue: 1.0		
Date: 21st January 2015		
		Page: 12 of 25

**Route Requirements Document -
Thurrock District Phase 1 & 2 TWAO – Mainline & Branchline**



Reqt ID	Source Reference	Requirement and Heading	Priority	Acceptance Criteria	Supporting Information	Assumption
		phase 2 shall be developed for phase 3.		diverted are planned to be provided with a bridge.		
RR-ThurP1&P2-1141	CR- CP5LX -1123	Diversity Impact Assessment	High	Production of a report detailing the diversity impact of the proposed changes.	None identified	None
		3.4 Network Rail Asset Requirements E&P				
RR-ThurP1&P2-1201	CR-CP5LX-1171	Where a level crossing is being removed the Overhead Line Equipment (OLE) contact wires shall be adjusted to be as near to the nominal wire height of 4.7metres as practical.	Low	Contact wires are at the optimum height for that area of line.	A cost benefit analysis shall be applied to understand the operational benefits of altering the wire heights per crossing	That the current wire heights are compliant to standards (run-ins / run-outs).
RR-ThurP1&P2-1202	CR-CP5LX-1172	Where a level crossing is being removed and the current (OLE) contact wires arrangements are not compliant to standard, the wire heights shall be adjusted to be as near to the nominal wire height of 4.7metres as practical.	High	Contact wires are at the optimum height for that area of line.	Records of existing deficient wire heights (including run-in / run-outs)	
RR-ThurP1&P2-1203	CR-CP5LX-1173	Where new bridges are to be constructed they shall be bonded to the traction return where appropriate.	High	New structures are suitably bonded to be compliant to Network Rail company standards.	None identified	

Document Ref: Thur-P1&P2 TWAO		RRD
Issue: 1.0		
Date: 21st January 2015		
		Page: 13 of 25

Req ID	Source Reference	Requirement and Heading	Priority	Acceptance Criteria	Supporting Information	Assumption
		3.5 Network Rail Asset Requirements Signalling				
RR-ThurP1&P2-1211	CR-CP5LX-1182	Where crossings are removed that have telephones fitted the signallers display system (diagram, panel or VSCS) shall be updated to shown the removal.	High	Signallers display system updated to reflect the current state of the infrastructure.	None identified	None
RR-ThurP1&P2-1212	CR-CP5LX-1183	Where crossings are removed the Signalling RAM shall be informed so that a plan can be put in place to get them removed from the Signalling diagrams (if shown).	High	That it is recorded where footpath or UWCs are recovered and the Signalling RAM is presented with this information.	None identified	These alterations shall be managed by means of a records deficiency form and updated when the record is next worked on.
RR-ThurP1&P2-1213	CR-CP5LX-1184	Where whistle boards are to be removed, the Signalling RAM shall be informed so that a plan can be put in place to remove them from the signalling diagrams.	High	That it is recorded where whistle boards are recovered and the Signalling RAM is presented with this information.	None identified	These alterations shall be managed by means of a records deficiency form and updated when the record is next worked on.

Req ID	Source Reference	Requirement and Heading	Priority	Acceptance Criteria	Supporting Information	Assumption
		3.6 Network Rail Asset Requirements Track				
RR-ThurP1&P2-1221	CR-CP5LX-1191	Crossing deck (if fitted) shall be removed (including edge beams, if fitted) and track inspected to ensure that all the track components are still serviceable.	High	No evidence of crossing on site & track components signed as fit for purpose.	None identified	None
RR-ThurP1&P2-1222	CR-CP5LX-1192	Where a crossing deck has been removed sleeper spacing shall be checked and if required corrected with serviceable spares to match the existing assets.	Medium	Sleeper spacing matches that of the approaches and all track components are of the same type.	None identified	None
RR-ThurP1&P2-1223	CR-CP5LX-1193	Where level crossings have been removed the ballast shoulder and cribs shall be reinstated to provide suitable track support	High	Track support system shall be in accordance with Network Rail Company standard.	None identified	None
RR-ThurP1&P2-1224	CR-CP5LX-1194	Where signalling equipment has been involved and train detection is reduced, any redundant Insulated Rail Joints (IRJ) shall be removed from the track. If in Continuous Welded Rail the rail shall be stressed to Level 1 (if <36metres of new rail) or level 2 (if > 36metres).	High	Redundant IRJs removed and stressing certificates provided	None identified	None

Req ID	Source Reference	Requirement and Heading	Priority	Acceptance Criteria	Supporting Information	Assumption
		3.7 Network Rail Asset Requirements Telecoms				
RR-ThurP1&P2-1231	CR-CP5LX-1201	Where telephones are present they shall be recovered in working order and returned to be offered to the RCE and or NRT Central Stores (tie cabling shall be recovered and scraped).	High	Phones, posts, and bases removed including cabling.	None identified	None
RR-ThurP1&P2-1232	CR-CP5LX-1202	Where telephones are displayed on a telephone concentrator, these shall be removed from the system.	High	Telephone concentrator updated to reflect the current state of the infrastructure.	None identified	None
		3.8 Operational Requirements				
RR-ThurP1&P2-1241	CR-CP5LX-1231	Where whistle boards are to be removed these shall only be removed once published in the WON.	High	Whistle boards removed from the infrastructure.	None identified	None
RR-ThurP1&P2-1242	CR-CP5LX-1232	Where crossings to be removed are fitted with a phone, this shall only be done once it has been published in the WON.	High	Sectional Appendix updated to reflect the current state of the infrastructure.	None identified	None

**Route Requirements Document -
Thurrock District Phase 1 & 2 TWAO – Mainline & Branchline**



Req ID	Source Reference	Requirement and Heading	Priority	Acceptance Criteria	Supporting Information	Assumption
RR- ThurP1&P2- 1243	CR-CP5LX-1233	Where crossings to be removed are fitted with a phone, this shall only be done once Network Change has been done to remove them from the Sectional Appendix	High	Approved Network Change	None identified	None
		3.9 Performance Requirements				
RR- ThurP1&P2- 1251	CR- CP5LX -1131	Any temporary TSR's that are in place as a result of the crossing having insufficient sighting shall be removed once the crossing is closed.	Medium	Removal of the TSR	Operational publications will detail where and what speeds are in force.	None
RR- ThurP1&P2- 1252	CR- CP5LX -1132	Any operational restrictions regarding the standing of trains at signals due to the train blocking the footpath shall be removed.	Medium	Removal of local instruction	None identified	Only applicable to crossing where standage is an issue
RR- ThurP1&P2- 1253	CR- CP5LX -1133	Where a PSR exists due to sighting requirements of a crossing that is being removed, the project shall investigate the potential of removing the PSR and increasing the line speed.	Low	Increase in line speed over the section of line where the crossing used to be located.	None identified	That the other railway infrastructure can withstand a speed increase.

Document Ref: Thur-P1&P2 TWAO		RRD
Issue: 1.0		
Date: 21st January 2015		
		Page: 17 of 25

**Route Requirements Document -
Thurrock District Phase 1 & 2 TWAO – Mainline & Branchline**



Req ID	Source Reference	Requirement and Heading	Priority	Acceptance Criteria	Supporting Information	Assumption
		3.10 Environmental Requirements				
RR-ThurP1&P2-1261	CR-CP5LX-1141	Adherence to corporate policies in development, design and construction.	High	Production of the Environmental Impact Assessment for suitable crossings	None identified	None
		3.11 Reliability, Availability, Maintainability Requirements				
RR-ThurP1&P2-1281	CR-CP5LX-1161	Where crossings are closed; Ellipse shall be updated to remove the Maintenance Schedulable Tasks (MST) from the maintainers work bank. This shall cover all disciplines.	High	Ellipse data updated	None identified	None
RR-ThurP1&P2-1291	CR-CP5LX-1162	Where crossings are closed ALCRM is updated to show the crossing as closed and no longer part of the network.	High	ALCRM data updated	None identified	None
		3.12 Maintenance Requirements				
RR-ThurP1&P2-1301	CR-CP5LX-1151	Any roadway that is built to be used as a public highway shall be built to be adopted by the Highway Authority for on going maintenance	High	Adoption of the new roadway by the Highways Authority	None identified	None

Document Ref: Thur-P1&P2 TWAO		RRD
Issue: 1.0		
Date: 21st January 2015		
		Page: 18 of 25

**Route Requirements Document -
Thurrock District Phase 1 & 2 TWAO – Mainline & Branchline**



Reqt ID	Source Reference	Requirement and Heading	Priority	Acceptance Criteria	Supporting Information	Assumption
RR-ThurP1&P2-1302	CR-CP5LX-1152	Where assets are removed from the railway the appropriate data base shall be update to reflect the current state of the railway. This shall include (but not limited to) such systems as Ellipse, GEOGIS.	High	Asset data records correctly showing the status of the assets.	None identified	None

Document Ref: Thur-P1&P2 TWAO		RRD
Issue: 1.0		
Date: 21st January 2015		
		Page: 19 of 25

Appendix A – Deliverables

See attached project characterisation spreadsheet detailing the project deliverables.

Appendix B – References

Anglia CP5 Level Crossing Reduction Strategy (CP5 Xing Reduction – Issue 1).

See pages 21 to 25 for maps of the crossings and their proposed alterations.

Appendix C - Glossary

Abbreviation	Description
CRD	Client Requirements Document
DRRD	Detailed Route Requirements Document
IP	Infrastructure Projects
RAM	Route Asset Manager
RRD	Route Requirements Document
WLC	Whole Life Cost
TWAO	Transport & Works Act Order
PRoW	Public Right of Way
ALCRM	All level Crossings Risk Model
WON	Weekly Operating Notice
RCE	Route Communications Engineer
NRT	Network Rail Telecoms
OHLE	OverHead Line Equipment
VSCS	Video Screen Control System
IRJ	Insulated Rail Joint
TSR	Temporary Speed Restriction
PSR	Permanent Speed Restriction

Appendix D - Whole Life Cost Analysis

Not applicable to this phase.

Appendix E - Additional Information

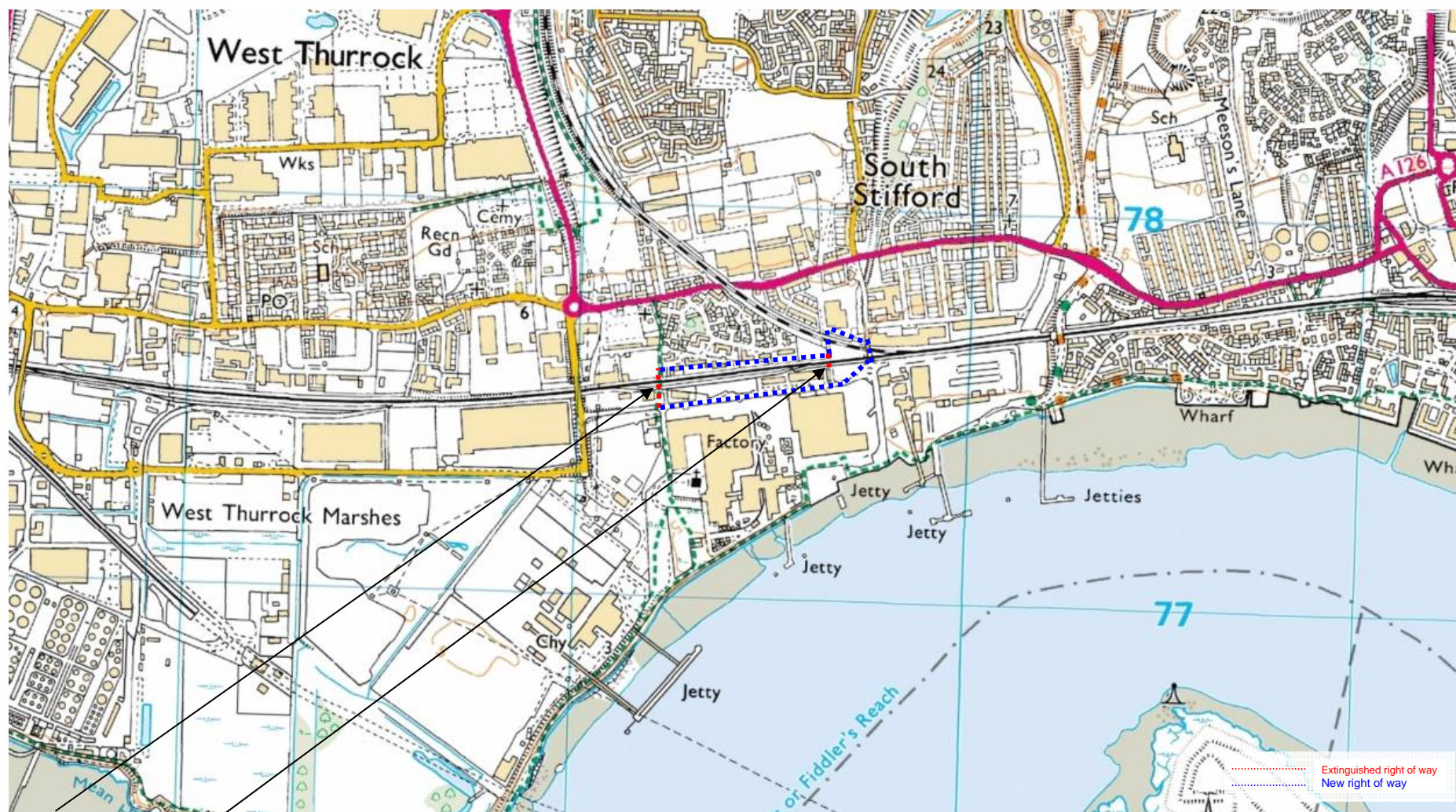
Nothing identified at the time of writing.

Route Requirements Document - Thurrock District Phase 1 & 2 TWAO – Mainline & Branchline



No Name No.131

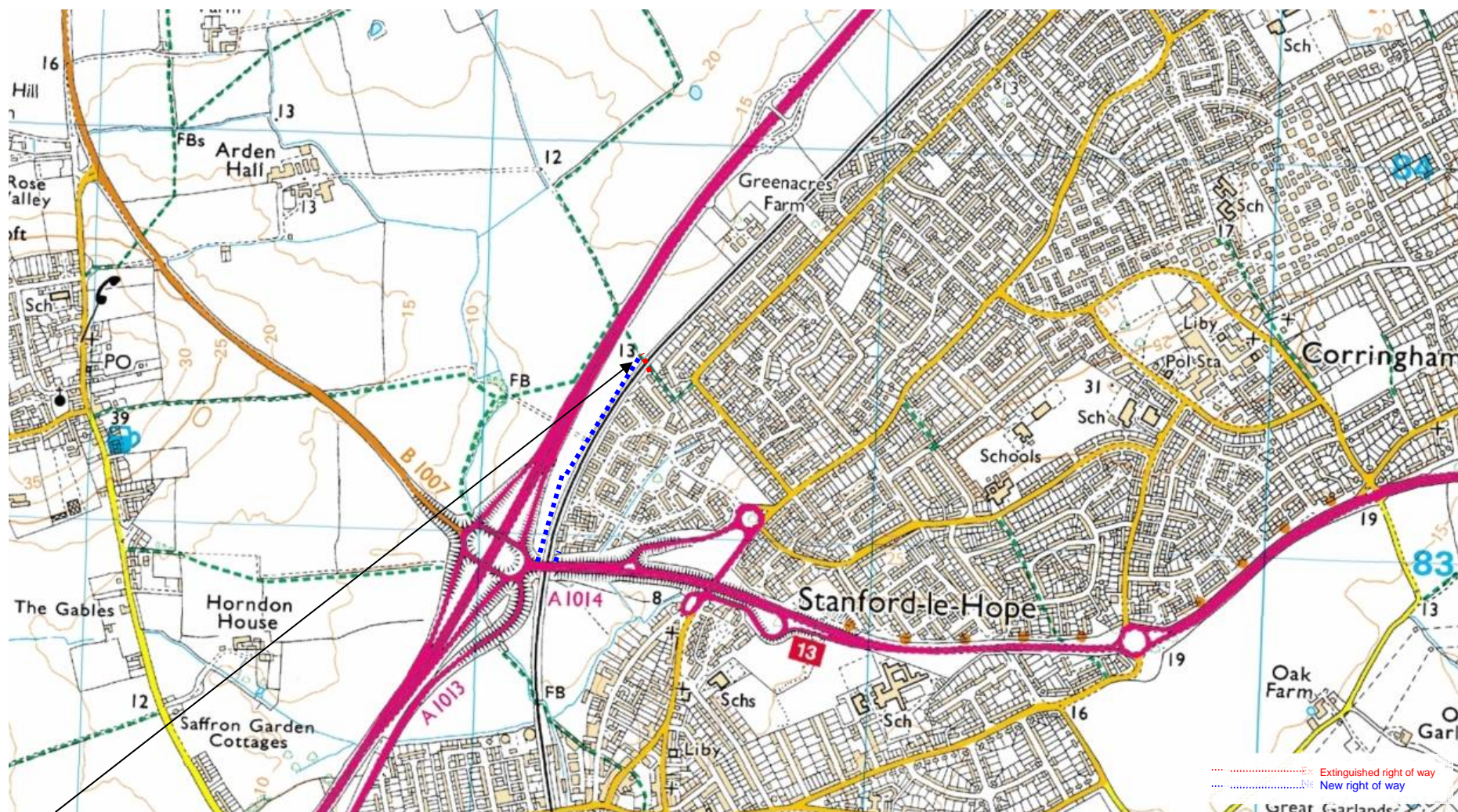
Document Ref: Thur-P1&P2 TWAO		RRD	
Issue: 1.0			
Date: 21st January 2015		Page:	21 of 25



St Clements & Gibbs Wharf

Document Ref: Thur-P1&P2 TWAO		RRD	
Issue: 1.0			
Date: 21st January 2015		Page:	22 of 25

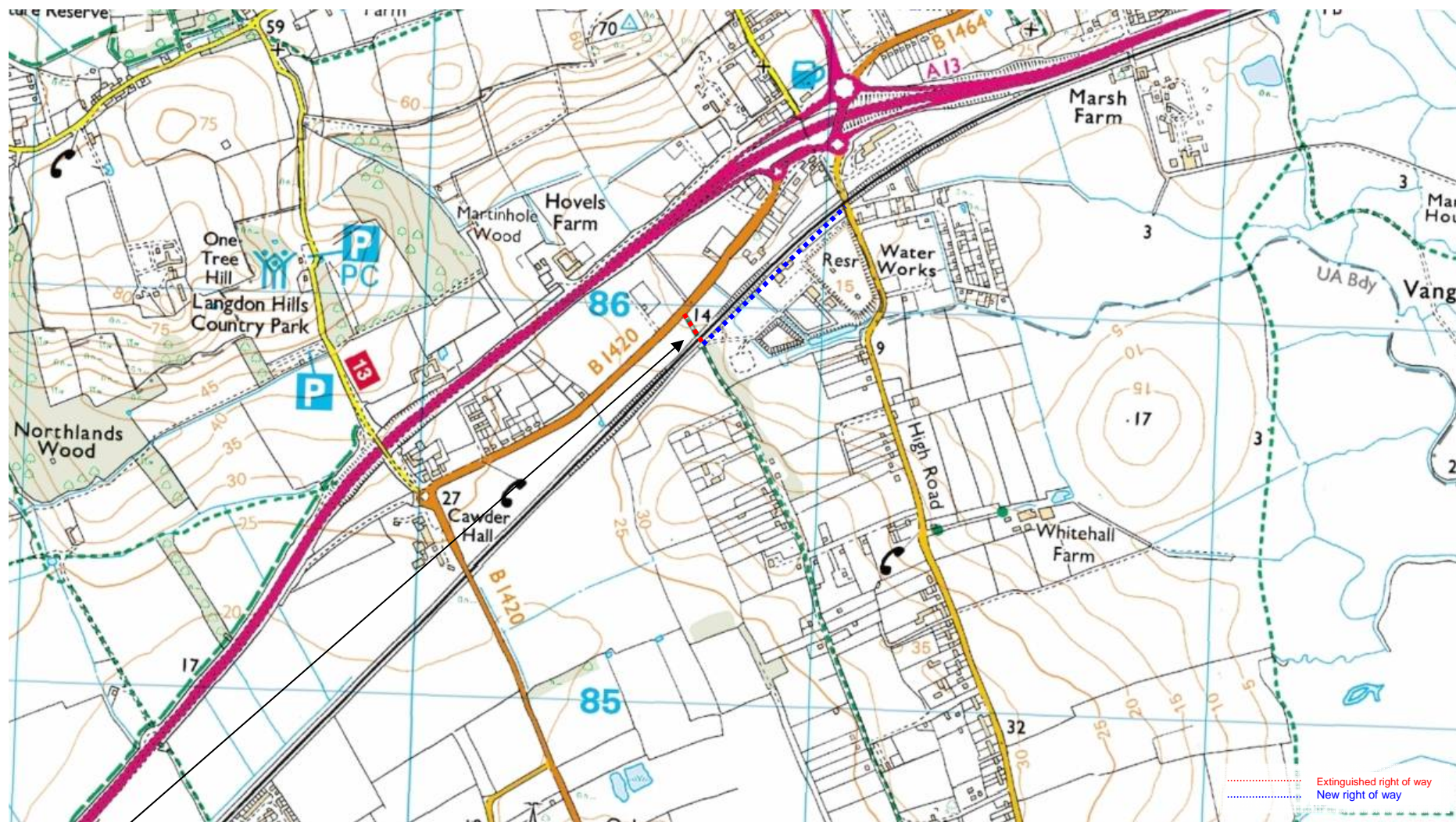
Route Requirements Document - Thurrock District Phase 1 & 2 TWAO – Mainline & Branchline



Jefferies

Document Ref: Thur-P1&P2 TWAO		RRD
Issue: 1.0		
Date: 21st January 2015		Page: 23 of 25

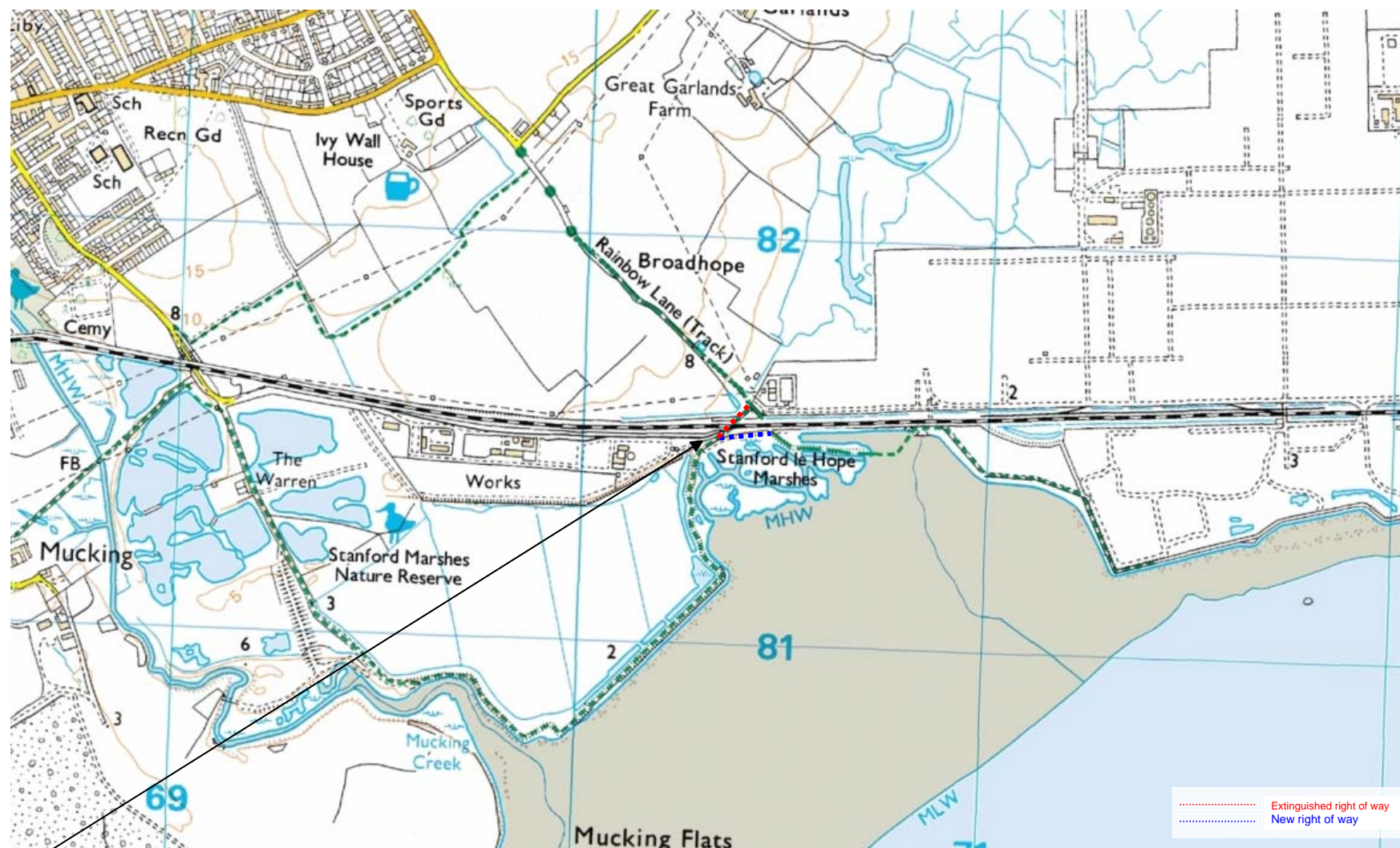
Route Requirements Document - Thurrock District Phase 1 & 2 TWAO – Mainline & Branchline



Howells Farm

Document Ref: Thur-P1&P2 TWAO		RRD	
Issue: 1.0			
Date: 21st January 2015		Page:	24 of 25

Route Requirements Document -
Thurrock District Phase 1 & 2 TWAO – Mainline & Branchline



Footpath 190

Document Ref: Thur-P1&P2 TWAO		RRD	
Issue: 1.0			
Date: 21st January 2015		Page:	25 of 25

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