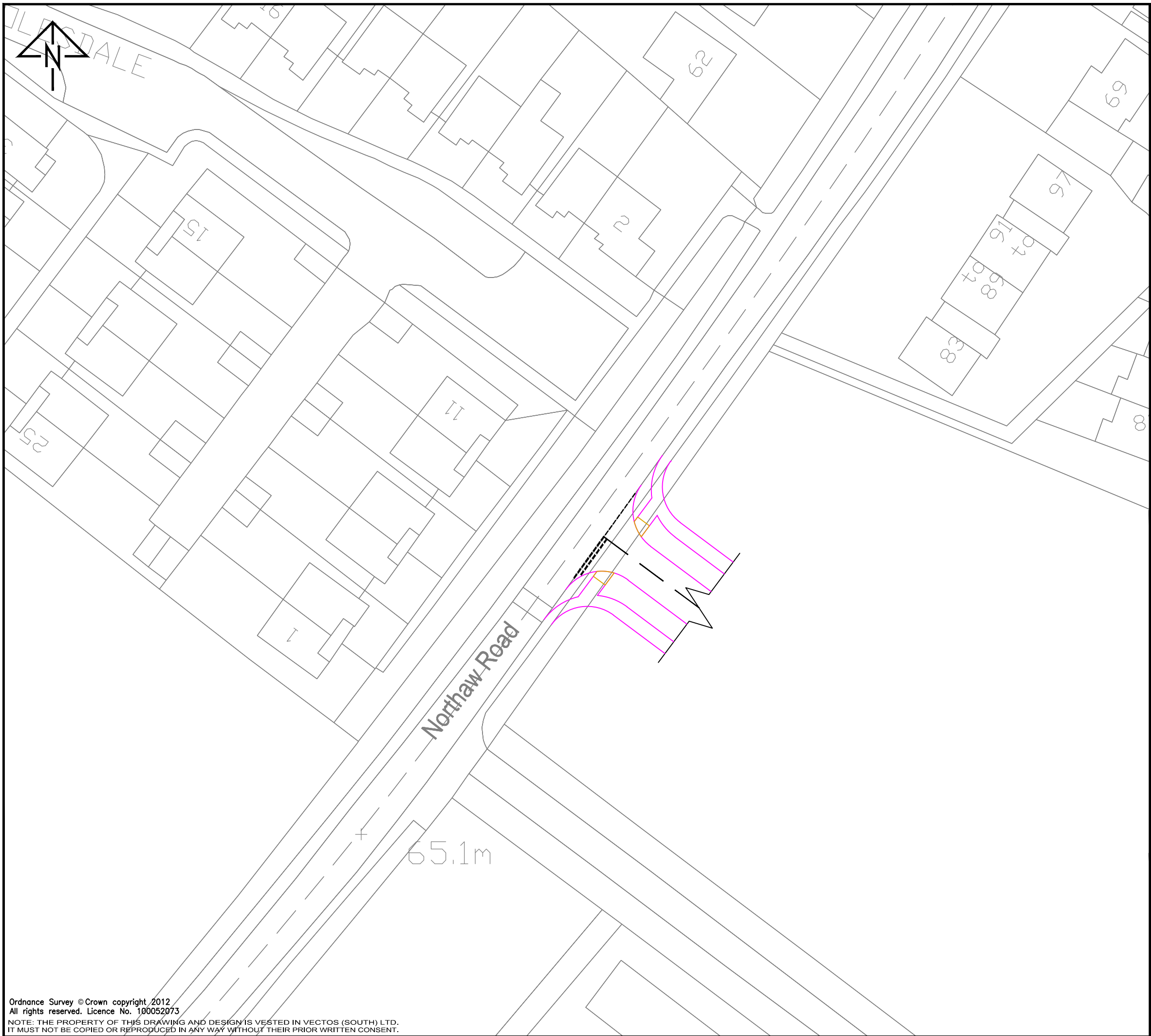


APPENDIX F

Proposed Site Access and Swept Path Analysis



- Notes:
- 1. This is not a construction drawing and is intended for illustrative purposes only.
 - 2. White lining is indicative only.

A	Tactiles shown	JM	MMcC	12/06/2015
REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT:

Lands Improvement

PROJECT:

Land to the north east of King George V Playing Fields

DRAWING TITLE:

Highways Layout for Determination Site Access

SCALES:

1:500 at A3

DRAWN:	JM	CHECKED:	MMcC	DATE:	21/05/2015
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transport planning specialists

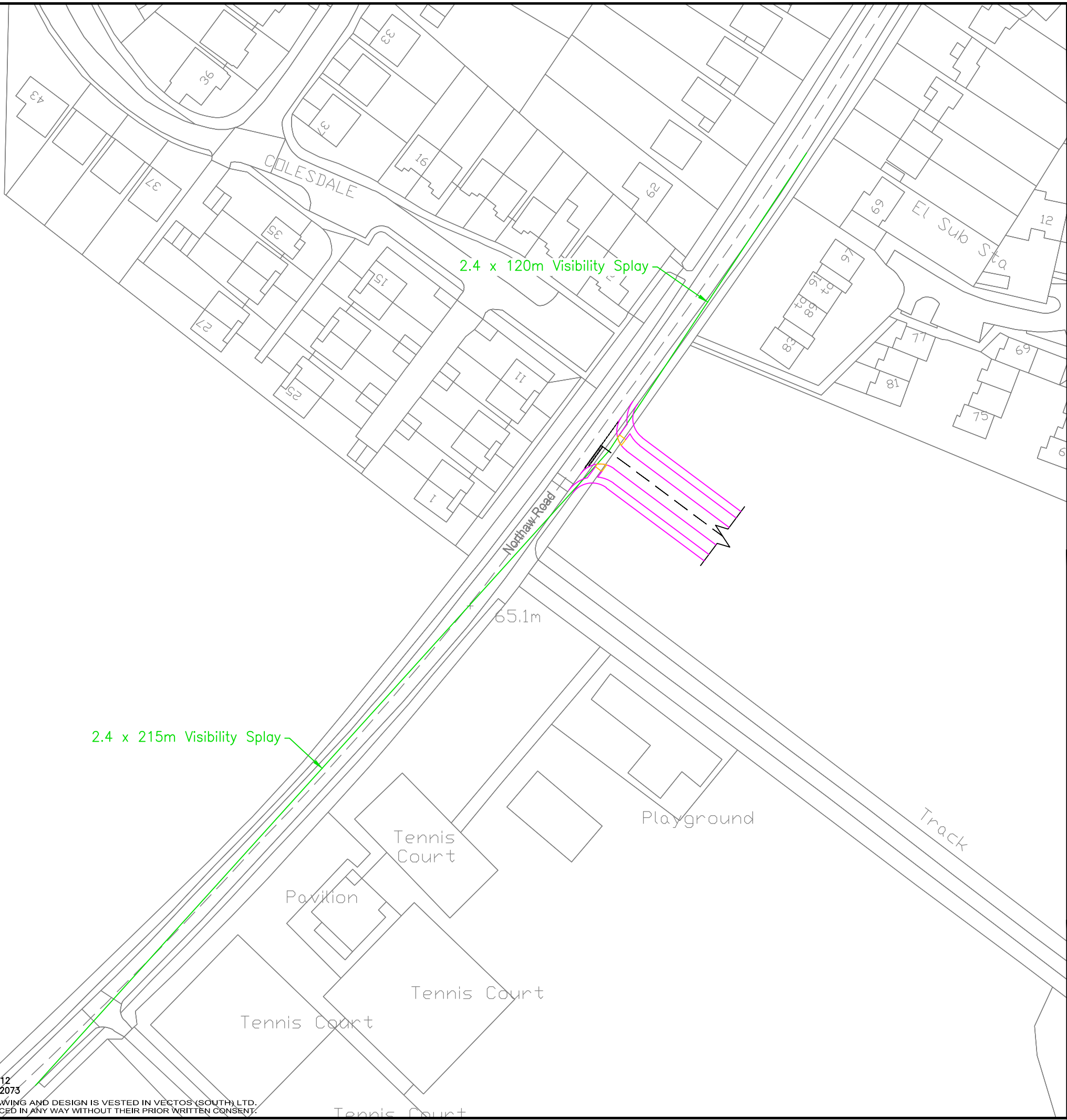
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t: 020 7580 7373 e: enquiries@vectoros.co.uk

DRAWING NUMBER:

141386/A/35

REVISION:

A



- Notes:
1. This is not a construction drawing and is intended for illustrative purposes only.
 2. White lining is indicative only.
 3. Site Access design from 141386/A/01.

REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT:

Lands Improvement

PROJECT:

Land to the north east of King George V Playing Fields

DRAWING TITLE:

Proposed Site Access
Visibility Splays

SCALES:

1:1000 at A3

DRAWN:	JM	CHECKED:	MMcC	DATE:	17/11/2014
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transport planning specialists

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DRAWING NUMBER:	141386/A/29	REVISION:	.
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Notes:

- 1. This is not a construction drawing and is intended for illustrative purposes only.
- 2. White lining is indicative only.
- 3. Site Access from 141386_A_01 Rev C.

12.1m Mercedes Econic 3233LL 8x4 chassis)

Overall Length	12.100m
Overall Width	2.490m
Overall Body Height	3.749m
Min Body Ground Clearance	0.302m
Track Width	2.490m
Lock to Lock Time	4.00s
Wall to Wall Turning Radius	11.250m

A	1:100 Scale insets added	JM	MMcC	25/06/2015
REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT:

Lands Improvement

PROJECT:

Land to the north east of King George V Playing Fields

DRAWING TITLE:

Swept Path Analysis
Site Access
Refuse

SCALES:

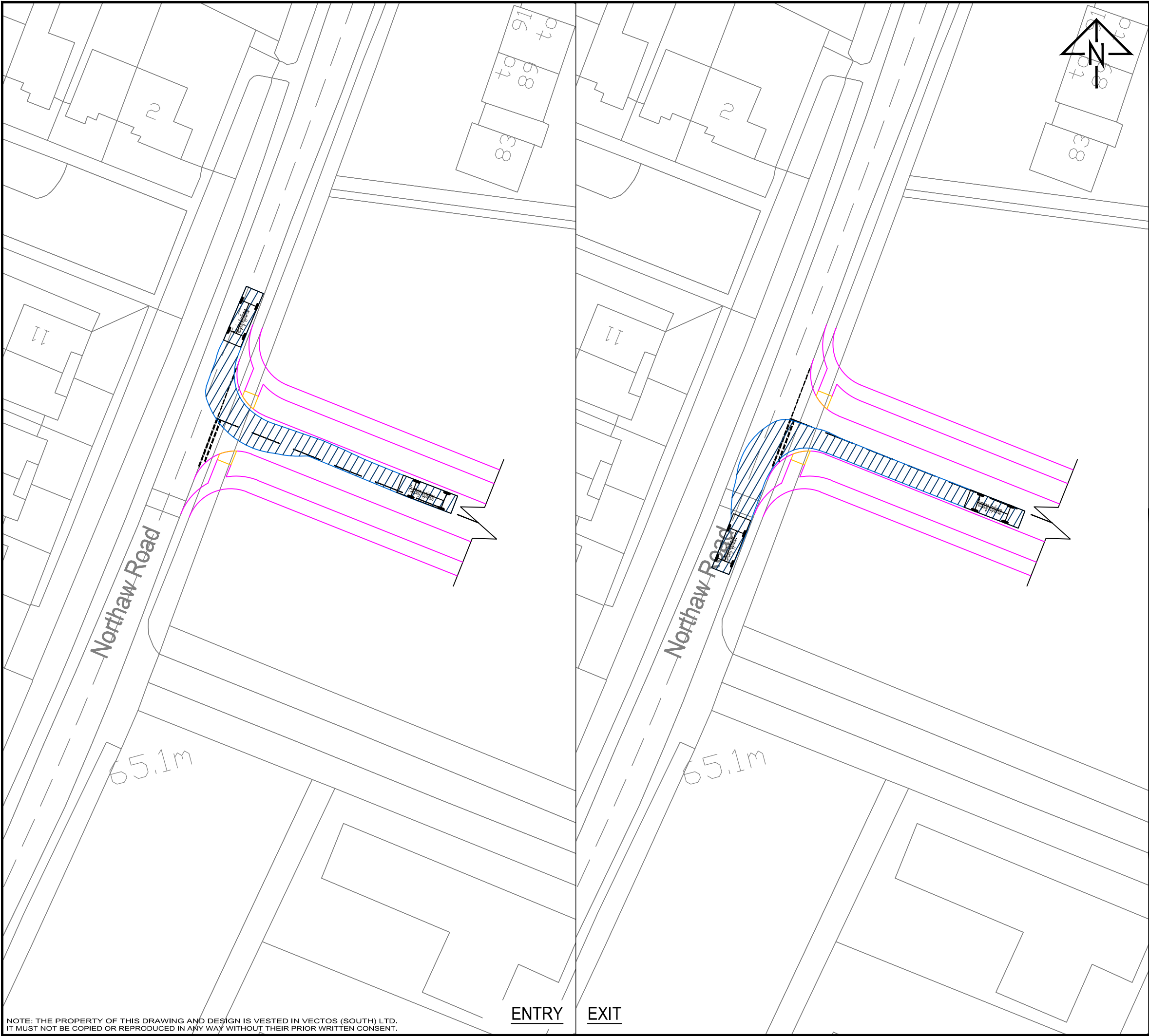
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DRAWN:	JM	CHECKED:	MMcC	DATE:	17/11/2014
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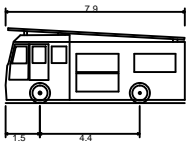
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DRAWING NUMBER:	141386/AT/G01	REVISION:	A
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- Notes:
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 2. White lining is indicative only.
 3. Site Access from 141386_A_01 Rev C.



Pumping Appliance	7.900m
Overall Length	2.500m
Overall Width	3.300m
Overall Body Height	0.140m
Min Body Ground Clearance	2.500m
Track Width	4.00s
Lock to Lock Time	7.750m
Kerb to Kerb Turning Radius	

REV.	DETAILS	DRAWN	CHECKED	DATE
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CLIENT:
Lands Improvement

PROJECT:
**Land to the north east of King
George V Playing Fields**

DRAWING TITLE:
**Swept Path Analysis
Site Access
Fire Tender**

SCALES:
1:500 at A3

DRAWN:	JM	CHECKED:	MMcC	DATE:	17/11/2014
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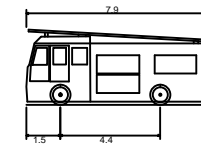
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DRAWING NUMBER:	141386/AT/H01	REVISION:	.
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Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.
2. White lining is indicative only.
3. Site Plan is 2271-C-1005-B Illustrative Masterplan by Omega Architects.



Pumping Appliance	
Overall Length	7.900m
Overall Width	2.500m
Overall Body Height	3.300m
Min Body Ground Clearance	0.140m
Track Width	2.500m
Lock to Lock Time	4.00s
Kerb to Kerb Turning Radius	7.750m

C	Latest Site Plan	JM	MMcC	25/06/2015
B	Latest Site Plan	JM	MMcC	11/06/2015
A	Shared Surface included	JM	ID	29/10/2014
REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT:

Lands Improvement

PROJECT:

Land to the north east of King
George V Playing Fields

DRAWING TITLE:

Swept Path Analysis

Fire Tender Accessibility

SCALES:

1:1000 at A3

DRAWN:	JM	CHECKED:	MMcC	DATE:	28/10/2014
--------	----	----------	------	-------	------------



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Notes:

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- 2. White lining is indicative only.
- 3. Site Plan is 2271-C-1005-B Illustrative Masterplan by Omega Architects.

Key

- Bin Wheeling Distance
- Storage Point required (25m max distance)

Vulture 2225 (with Mercedes Eonic 2628LL 6x4 chassis)
Overall Length 9.930m
Overall Width 2.490m
Overall Body Height 3.749m
Min Body Ground Clearance 0.302m
Track Width 2.490m
Lock to Lock Time 4.00s
Wall to Wall Turning Radius 9.100m

D	Latest Site Plan	JM	MMcC	25/06/2015
C	Latest Site Plan	JM	MMcC	11/06/2015
B	Shared Surface included	JM	ID	29/10/2014
A	Amenity Area proposal	JM	ID	27/10/2014

REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT: Lands Improvement

PROJECT: Land to the north east of King George V Playing Fields

DRAWING TITLE: Swept Path Analysis
Refuse Accessibility
Clockwise

SCALES: 1:1250 at A3

DRAWN: JM	CHECKED: MMcC	DATE: 20/10/2014
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Notes:

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2. White lining is indicative only.
3. Site Plan is 2271-C-1005-B Illustrative Masterplan by Omega Architects.

Vulture 2225 (with Mercedes Econic 2628LL 6x4 chassis)
Overall Length 9.930m
Overall Width 2.490m
Overall Body Height 3.749m
Min Body Ground Clearance 0.302m
Track Width 2.490m
Lock to Lock Time 4.00s
Wall to Wall Turning Radius 9.100m

C	Latest Site Plan	JM	MMcC	25/06/2015
B	Latest Site Plan	JM	MMcC	11/06/2015
A	Shared Surface included	JM	ID	29/10/2014

REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT:

Lands Improvement

PROJECT:

Land to the north east of King George V Playing Fields

DRAWING TITLE:

Swept Path Analysis
Refuse Accessibility
Anti-Clockwise

SCALES:

1:1250 at A3

DRAWN:	CHECKED:	DATE:
JM	MMcC	27/10/2014

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DRAWING NUMBER:	REVISION:
141386/AT/B01	C

APPENDIX G

Stage 1 Road Safety Audit and Designers Response

Land Improvement Holdings Limited

**Northaw Road, Cuffley
Proposed Site Access - Option 2**

Stage 1 Road Safety Audit

November 2014

Contents

1	INTRODUCTION.....	1
2	QUALIFICATIONS AND EXPERIENCE OF THE REPORT WRITERS	3
3	MATTERS ARISING FROM THIS AUDIT	4
	Departures from Standards	4
	Audit Issues	4
4	AUDIT TEAM STATEMENT.....	6

Appendices

Appendix A	- Site Location Plan
Appendix B	- General Arrangement Drawing
Appendix C	- CV of Asa John Plant

1 INTRODUCTION

- 1.1 This report results from a Stage 1 Road Safety Audit (RSA) carried out on Tuesday 18th November 2014. The audit was carried out on the instructions of the Vectos Planning Team based in the London Office, on behalf of Lands Improvement Holdings Limited.
- 1.2 A site visit was undertaken on Tuesday 18th November 2014 at 14:30. The weather was dry and cloudy. Moderate levels of traffic were generally observed. A site location plan can be found at Appendix A of this report.
- 1.3 The terms of reference of the audit are as set out in HD 19/03 and the Chartered Institution of Highways and Transportation document “Road Safety Audit” 2008). Where appropriate, cognisance has also been taken of the Manual for Streets 1 and 2 (MfS1 and MfS2) and of the guidelines for reducing mobility handicaps. The writers have examined and reported only on road safety implications of the scheme as presented and have not examined or identified the compliance of the design to any other criteria.
- 1.4 The Audit Team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the designs to any other criteria. However, to clearly explain a safety problem or the recommendation to resolve a problem the Audit Team may, on occasion, have referred to a design standard without touching on technical audit.
- 1.5 The proposals are to provide a new access on to Northaw Road to serve a new residential development.
- 1.6 An audit brief has been provided including layout plans, traffic accident data and traffic flow data. For ease of reference, the following general arrangement can be found at Appendix B:
- Vectos Drawing: W141386/A/01 Revision C

- 1.7 The Audit Team has reviewed the accident data provided. The accident data shows one serious accident involving a cyclist in the vicinity of the proposed site access (ref 2013-4100B0465). This accident would appear to be caused by rider error of the cyclist, overtaking other cyclists in the centre of the carriageway and colliding with the wing mirror of a northbound vehicle. Given this accident has occurred in isolation and there are no pattern of accidents within the vicinity of the site. The Audit Team do not believe there is an existing accident problem at this location.
- 1.8 Whilst recommendations have been made within this report, there may be equally satisfactory alternatives. The Audit Team will be pleased to consider alternatives if required.

2 QUALIFICATIONS AND EXPERIENCE OF THE REPORT WRITERS

2.1 This Audit has been carried out by the following:

A J PLANT MCIHT, MSoRSA, HA Certificate of Competency – Audit Team Leader
Associate
Vectos

M CHAMBERLAIN BSc (Hons) Env. Eng., MICE, MCIHT, MSoRSA - Audit Team Member
Independent Road Safety Consultant

2.2 A summary of the team leader's qualifications and experience can be found in Appendix C of this report.

3 MATTERS ARISING FROM THIS AUDIT

Departures from Standards

- 3.1 The Auditors are not advised of any departures from standards.

Audit Issues

3.2 PROBLEM

Location: General.

Summary: Details of lighting, surface water drainage and tactile paving have not been provided.

RECOMMENDATION

Ensure lighting, surface water drainage and tactile paving is provided in accordance with design standards.

3.3 PROBLEM

Location: General.

Summary: New service provision may be required for the proposed development and existing services may need to be diverted. Inspection covers which become polished by traffic action may create skid hazards for two-wheeled vehicles.

RECOMMENDATION

Ensure as far as practical that no manholes or inspection chambers are located where they are likely to be traversed by two-wheeled vehicles during turning manoeuvres. Where this is unavoidable, use skid resistant covers and ensure that they are regularly inspected and maintained.

3.4 PROBLEM

Location: General.

Summary: Swept path tracking has been provided for a refuse vehicle and fire tender. The swept path manoeuvre for the refuse vehicle is very tight and appears to cross over the footway on the western side of Northaw Road, resulting in potential conflict with pedestrians.

RECOMMENDATION

Ensure swept path manoeuvres can be accommodated within the carriageway.

4 AUDIT TEAM STATEMENT

- 4.1 I certify that this Audit has been carried out in accordance with the requirements of HD 19/03.

Signed: 
A J PLANT (Audit Team Leader)

Date: 21st November 2014

- 4.2 A summary of the team leader's qualifications and experience can be found in Appendix C of this report.

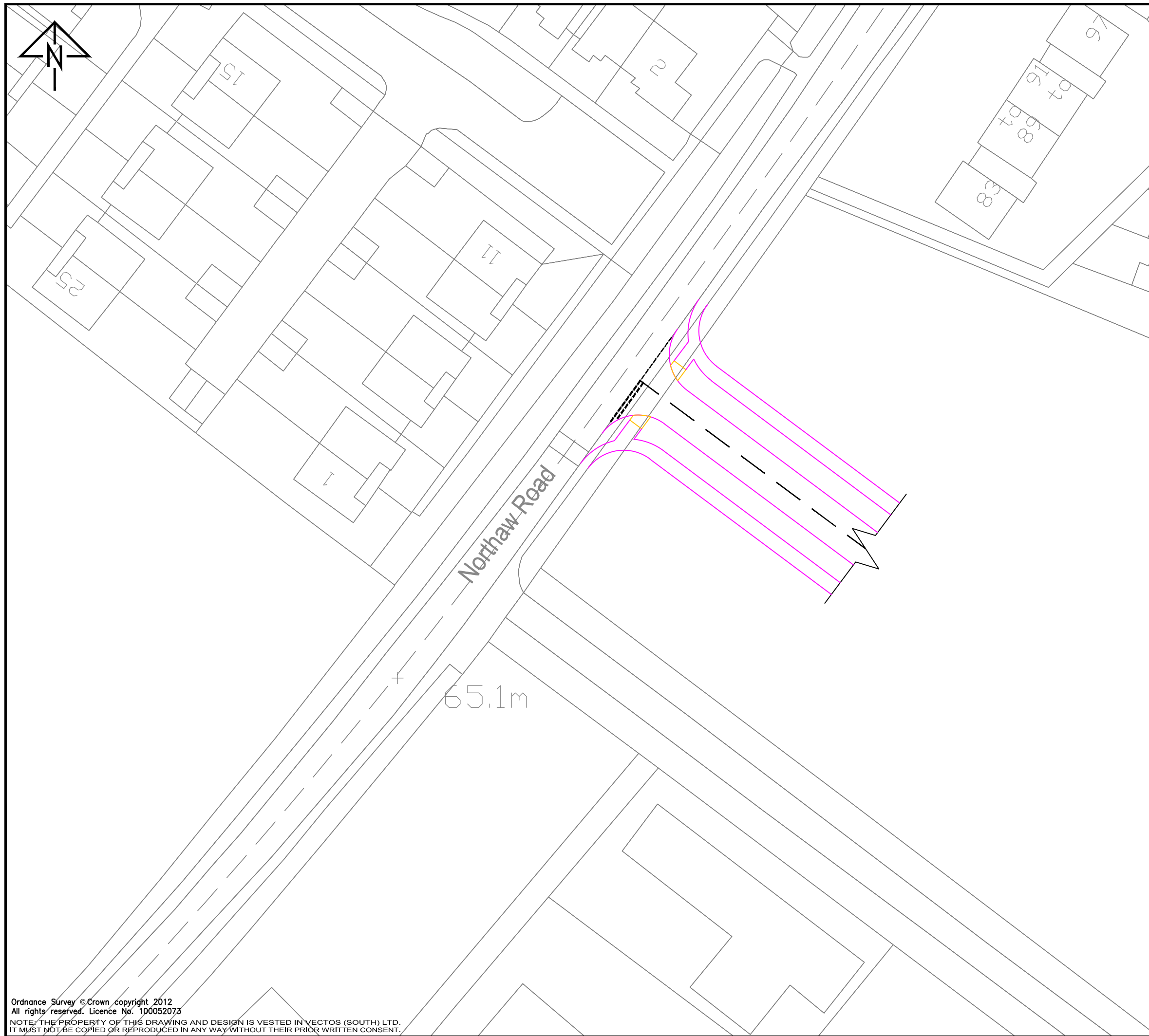
APPENDIX A

Site Location Plan



APPENDIX B

General Arrangement Plan



- Notes:
- 1. This is not a construction drawing and is intended for illustrative purposes only.
 - 2. White lining is indicative only.
 - 3. Tree survey provided by HDA: 2130.38/01, 02, 03 (shown in green)

C	Verge, vis splays & tactiles added.	JM	MMcC	17.11.2014
B	Existing access & distance to new access removed.	JM	MMcC	16.10.2014
A	Access location moved to south. Tree survey added.	TF	ID	13.08.2014

REV.	DETAILS	DRAWN	CHECKED	DATE
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CLIENT:
Lands Improvement Holdings Limited

PROJECT:
Cuffley

DRAWING TITLE:
Proposed Site Access Option 2

SCALES:
1:1000 at A3

DRAWN:	TF	CHECKED:	MM	DATE:	01.08.2014
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DRAWING NUMBER: **141386/A/01**

REVISION: **C**



ROAD SAFETY AUDIT REPORT & DESIGNERS RESPONSE

Stage 1

SCHEME TITLE

**Land to the north east of King George V Playing Fields, Cuffley
Proposed Access Junction**

Paragraph Number	Problem	Recommendation	Designer's Response
	Signalised Junction (141208/A/04 Rev C)		
3.2	Location: General Summary: Details of lighting, surface water drainage and tactile paving have not been provided.	Ensure lighting, surface water drainage and tactile paving is provided in accordance with design standards.	Agreed. The details of lighting, surface water drainage and tactile paving will be provided at detail design stage.
3.3	Location: General Summary: New service provision may be required for the proposed development and existing services may need to be diverted. Inspection covers which become polished by traffic may create skid hazards for two-wheeled vehicles.	Ensure as far as practical that no manholes or inspection chambers are located where they are likely to be traversed by two-wheeled vehicles during turning manoeuvres. Where this is unavoidable, use skid resistant covers and ensure that they are regularly inspected and maintained.	Noted. Details of the location of any manholes or inspection chambers will be submitted and agreed at the detailed design stage.
3.4	Location: General Summary: Swept path tracking has been provided for a refuse vehicle and fire tender. The swept path manoeuvre for the refuse vehicle is very tight and appears to cross over the footways on the western side of Northaw Road, resulting in potential conflict with pedestrians.	Ensure swept path manoeuvres can be accommodated within the carriageway.	Noted. The swept path analysis of the refuse truck has been checked and this confirms that the manoeuvres can be undertaken within the carriageway. The updated drawing is included at Appendix A .

APPENDIX A

Updated Swept Path Analysis



Notes:

- 1. This is not a construction drawing and is intended for illustrative purposes only.
- 2. White lining is indicative only.
- 3. Site Access from 141386_A_01 Rev C.

12.1m Mercedes Econic 3233LL 8x4 chassis)

Overall Length	12.100m
Overall Width	2.490m
Overall Body Height	3.749m
Min Body Ground Clearance	0.302m
Track Width	2.490m
Lock to Lock Time	4.00s
Wall to Wall Turning Radius	11.250m

A	1:100 Scale insets added	JM	MMcC	25/06/2015
REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT:

Lands Improvement

PROJECT:

Land to the north east of King George V Playing Fields

DRAWING TITLE:

Swept Path Analysis
Site Access
Refuse

SCALES:

1:500 at A3

DRAWN:	JM	CHECKED:	MMcC	DATE:	17/11/2014
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APPENDIX C

CV of Asa John Plant

MCIHT	Member of the Chartered Institution of Highways and Transportation
MSoRSA	Member of the Society of Road Safety Auditors
ROSPA	Road Safety Engineering Accreditation
HA / TMS	Certificate of Competency

asa.plant@vectos.co.uk

SUMMARY OF EXPERIENCE

Asa has some 10 years' experience in highway engineering and transport planning, including highway layouts, junction design, junction modelling and 8 years' experience in road safety and remedial engineering.

Asa has completed the RoSPA Road Safety and Accident Investigation and Prevention Course run by TMS and has maintained his CPD in this field. Asa's experience includes transport planning and highways design, including junction design and modelling, road safety and remedial engineering.

Responsible for project management and advising clients from both the public and private sectors in regard to highways, traffic, transportation and road safety matters relating to various land use development proposals, highway schemes and safety studies. This encompasses the following:

- Initial site appraisals
- Master Planning
- Travel Plans
- Transport Assessments / Highways Statements
- Highway design

He regularly acts as a Team Leader / Team Member on the preparation of Safety Audit Reports for Clients in both the Public and Private Sector.

He has attended numerous events providing CPD in the fields of safety audit and investigation. Including:

- ROSPA / TMS - Road Safety Engineering Accident Investigation and Prevention – 10 days
- University of Newcastle upon Tyne - Accident Investigation and Prevention – 2 days
- TMS - Road Safety Audit – 1 day

Asa has obtained the Highways Agency Certificate of Competency in Road Safety Audit. He holds a CSCS Professionally Qualified Persons Card and has attended the HA site induction for Area 4.

RECENT CPD

- Highways Agency Certificate of Competency TMS – 17th April 2012 to 18th April 2012 (2 days)
- Can We Make Our Roads Safer For Cyclists? TMS - 14th May 2013 (1 day)
- Non-Motorised User Audits TMS - 23rd May 2013 (1 day)
- Traffex Live 2014 - 15th May 2014 (1 day)
- TMS Roundabout Audit Workshop - 10th June 2014 (1 day)

RECENT AUDITS

- Cane Hill, Coulsden – S1/2 RSA – May 2014
- Fornham All Saints Link Road – S2 RSA – April 2014
- Linpac Site, Woodley – S1/2 RSA – April 2014
- Fernham Road, Faringdon – S1/2 RSA – April 2014
- Rectory Park, Ealing – S2 RSA – February 2014

APPENDIX H

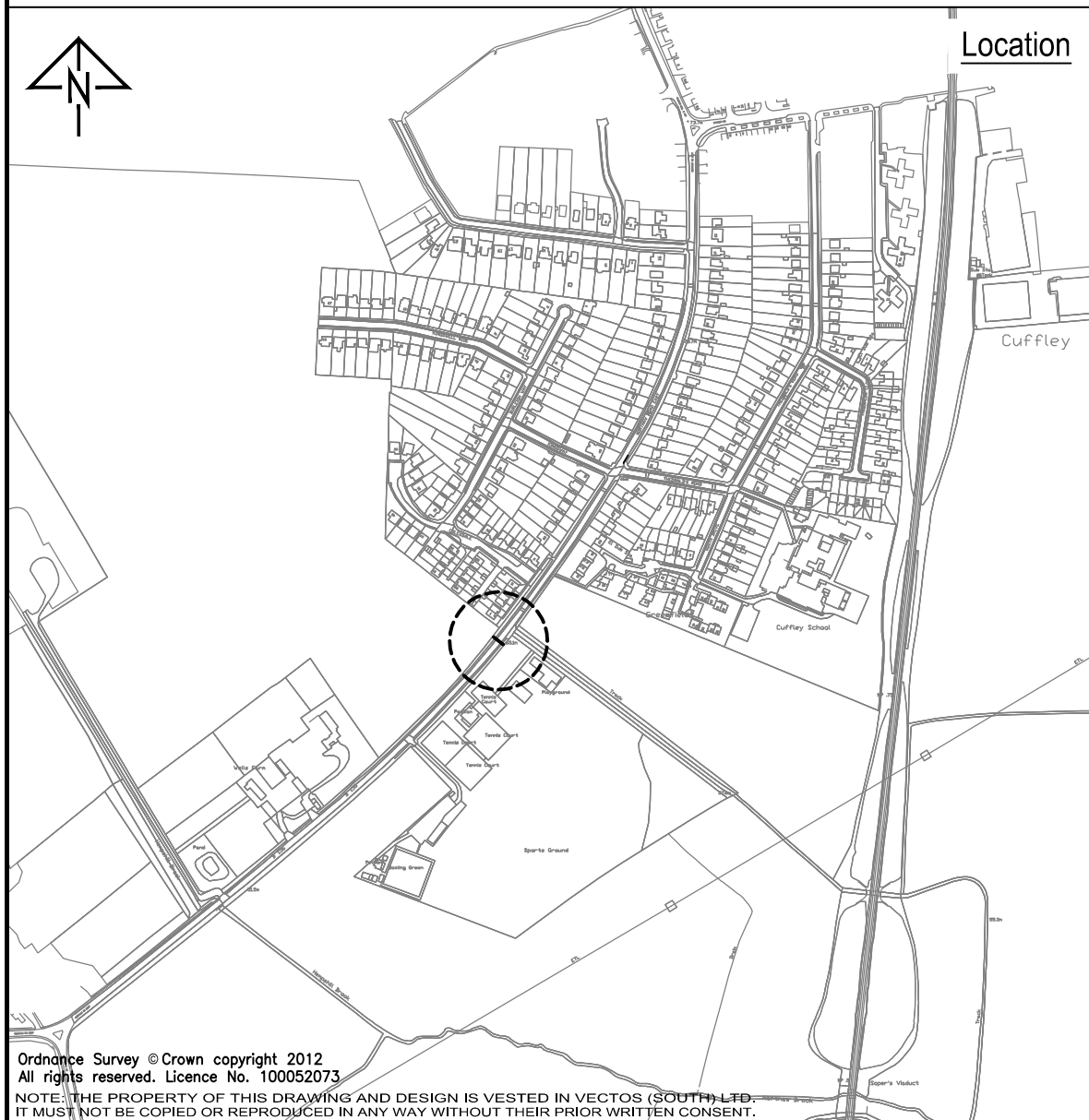
Proposed Gateway Feature



Existing



Proposed



Example



Alternative Example



Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.
2. White lining is indicative only.

REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT:
Lands Improvement

PROJECT:
Land to the north east of King George V Playing Fields

DRAWING TITLE:
Village Gateway Improvement

SCALES:
NTS at A3

DRAWN: JM CHECKED: ID DATE: 12/05/2015

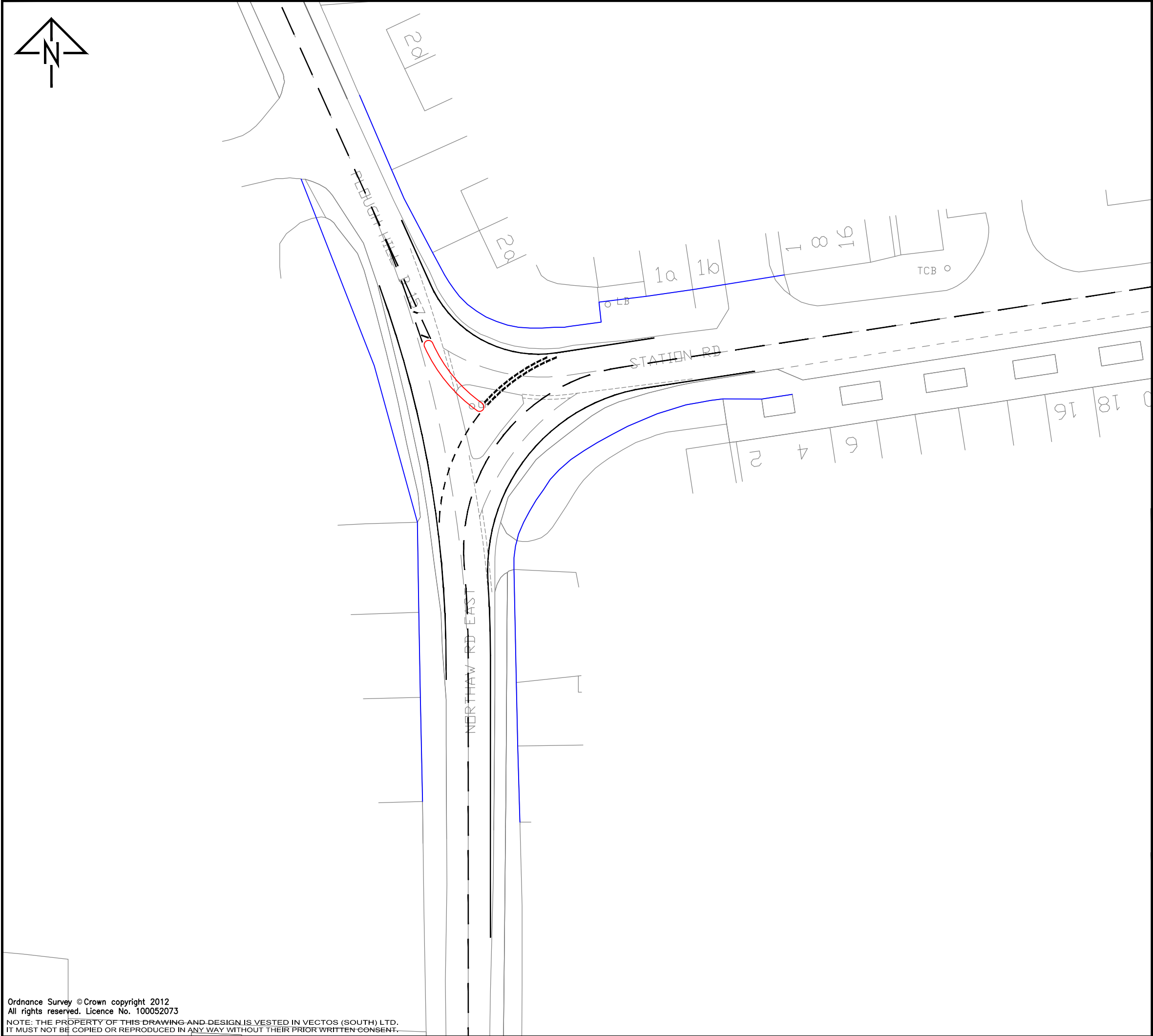


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DRAWING NUMBER: 141386/A/34 REVISION: .

APPENDIX I

Potential Off-Site Junction Mitigation Plans



Notes:
1. This is not a construction drawing and is intended for illustrative purposes only.
2. White lining is indicative only.

Key

Highway Boundary

REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT:
Lands Improvement

PROJECT:
Land to the north east of King George V Playing Fields

DRAWING TITLE:
Northaw Road East/Station Road Junction Priority Change

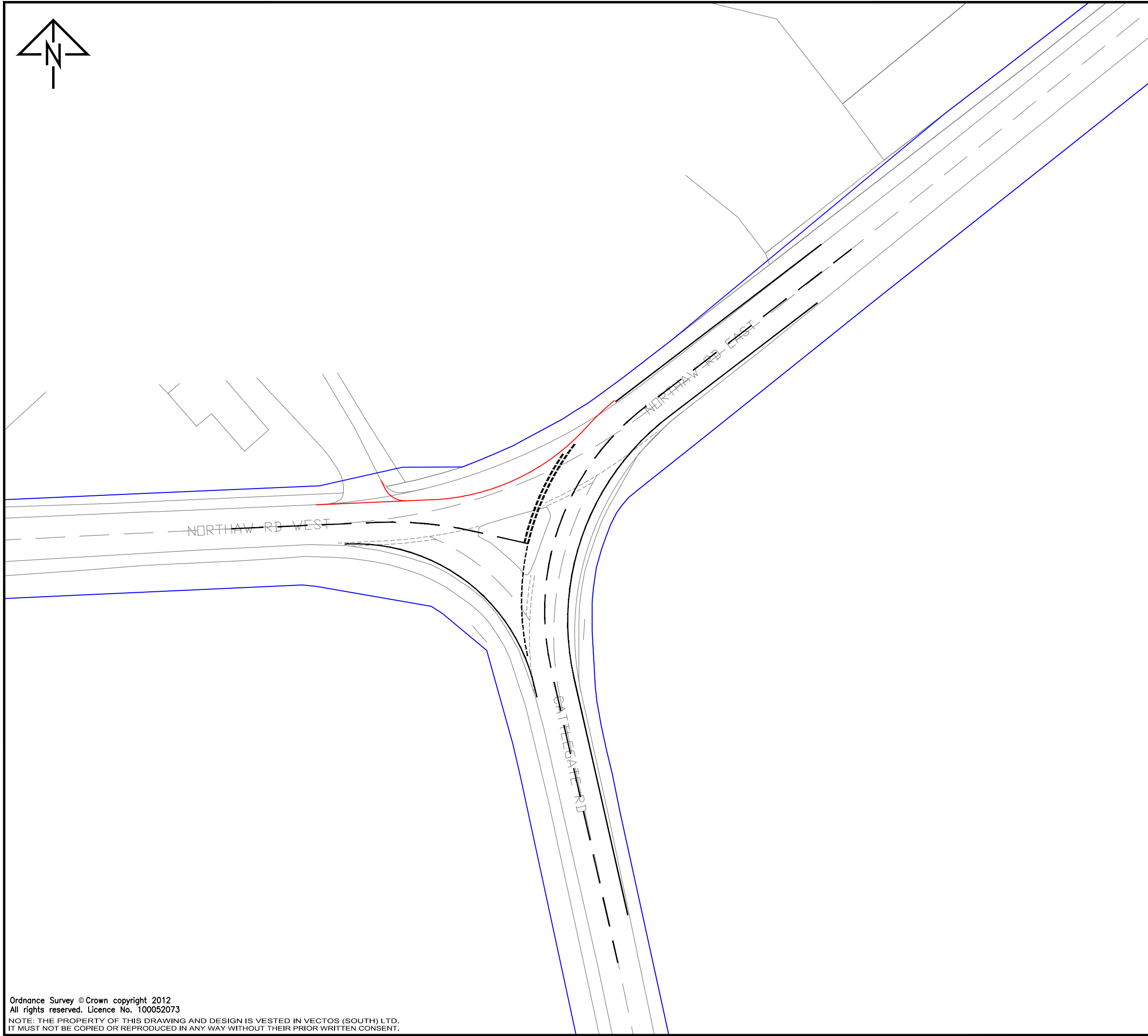
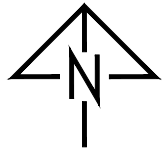
SCALES:
1:500 at A3

DRAWN: JM	CHECKED: MMcC	DATE: 12/11/2014
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Notes:

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- 2. White lining is indicative only.

Key

— Highway Boundary

REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT:

Lands Improvement

PROJECT:

Land to the north east of King George V Playing Fields

DRAWING TITLE:

Cattlegate Road/
Northaw Road East
Junction Priority Change

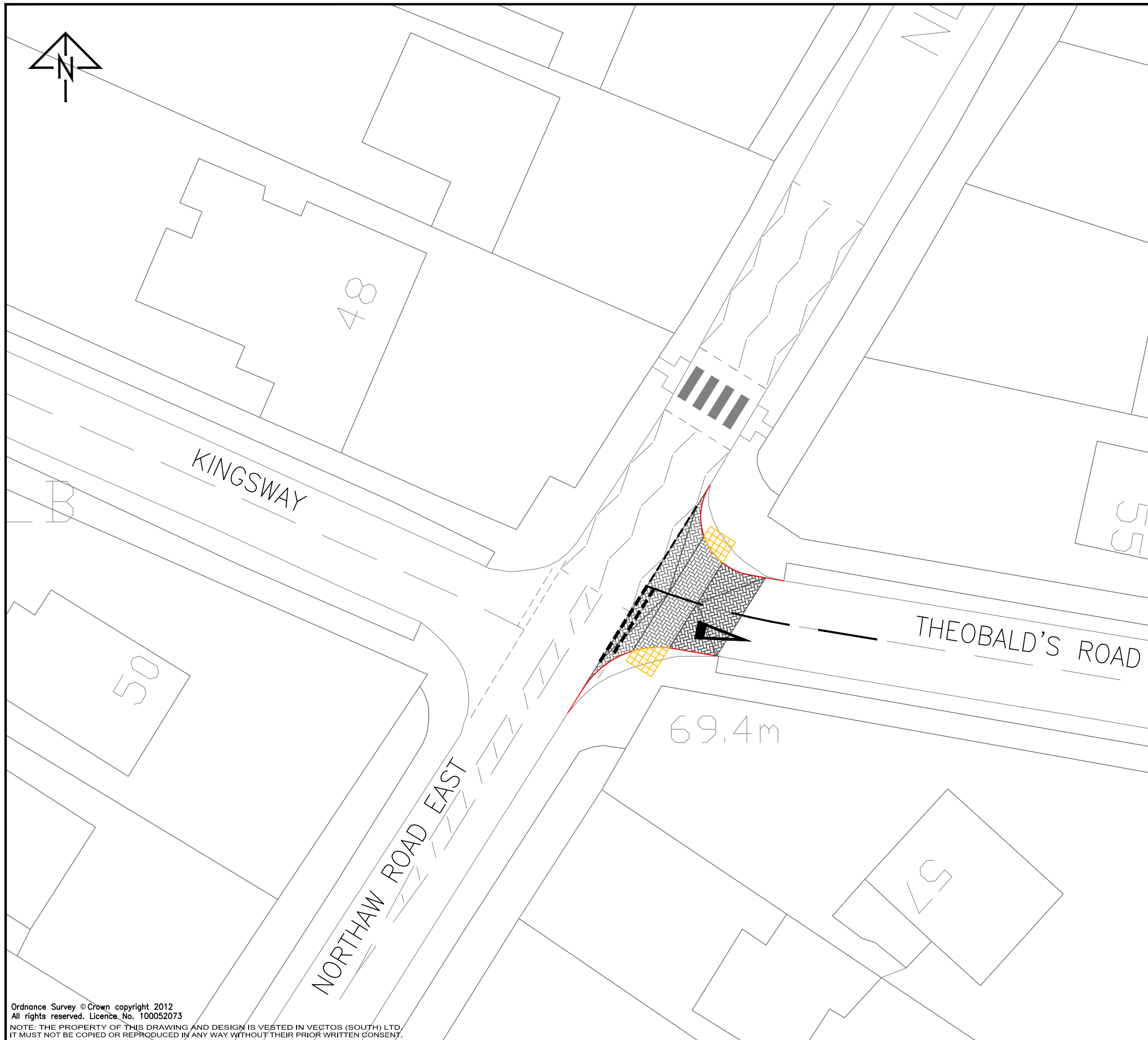
SCALES:

1:500 at A3

DRAWN:	JM	CHECKED:	MMcC	DATE:	13/11/2014
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DRAWING NUMBER:	141386/A/28	REVISION:	.
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Notes:
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2. White lining is indicative only.

REV.	DETAILS	DRAWN	CHECKED	DATE


CLIENT:
Lands Improvement

PROJECT:
Land to the north east of King George V Playing Fields

DRAWING TITLE:
Proposed Kerbline Build-out & Raised Table - Theobald's Road/ Northaw Road East Junction

SCALES:
1:500 at A3

DRAWN: JM	CHECKED: MMcC	DATE: 05/06/2015
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