



**STEWART PATON ASSOCIATES**

Consulting Engineers and Forensic Investigation Specialists

**ROAD LAYOUT  
HOUSING DEVELOPMENT  
FROGSTON ROAD (POD A, SITE 1)  
EDINBURGH**

STAGE 3 ROAD SAFETY AUDIT  
(SPA Ref No: 4282)

Roads Authority: The City of Edinburgh Council

Client: Barratt Homes



Report prepared by:

**Stewart Paton Associates Limited**

69 Barnton Park Avenue, Edinburgh, EH4 6HD

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**DOCUMENT CONTROL**

**General**

Project	Road Layout, Frogston Road, Pod A, Site 1
Client	Barratt Homes
Document Type	Stage 3 Road Safety Audit
SPA Ref No	4282

**Report Revisions**

	Originator	Date	Reviewer	Date	Status
Draft –Rev 0		06/02/20	N/A	N/A	For Review
Draft –Rev 1	N/A	N/A		07/012/20	Convert to Final
Final – Rev 0		10/02/20	N/A	N/A	Issue to Client

## 1.0 INTRODUCTION

- 1.1 The report has been prepared for the City of Edinburgh Council as a Stage 3 Road Safety Audit of the road layout of a section of the housing development at Frogston Road / Burdiehouse Road, Edinburgh. The audit was on behalf of Barratt Homes. The Road Safety Audit was carried out during January and February 2020.
- 1.2 The Road Safety Audit Team membership was as follows:
- ██████████ BSc, MSc IEng FIHE, MCIHT, FSoRSA  
Managing Director of Stewart Paton Associates Ltd., Consulting Engineers and Forensic Investigation Specialists  
(Certificate of Competency in Road Safety Audit gained in August 2017)
- ██████████ MCIHT, MSoRSA  
Director of Stewart Paton Associates Ltd., Consulting Engineers and Forensic Investigation Specialists  
(Certificate of Competency in Road Safety Audit gained in February 2013)
- 1.3 The Road Safety Audit took place at the Edinburgh office of Stewart Paton Associates on 6 February 2020. The Road Safety Audit was undertaken in accordance with the Road Safety Audit Brief / Instruction provided by Barratt Homes. The Road Safety Audit comprised an examination of the documents provided and these are listed in Annex 1. The Audit Team visited the site of the access junction and housing development on both 30 January (daytime) and 6 February (night-time) 2020. During both the day and night site visits the weather was fair and the road surface dry. Traffic conditions were light on both occasions.
- 1.4 The daytime inspection was also attended by ██████████ of Barratt Homes.
- 1.5. The terms of reference of the Road Safety Audit are as described in GG 119. The Road Safety 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.
- 1.6 All comments and recommendations are referenced to the detailed design drawings and the locations have been indicated on plan included in the Annex 2. Where appropriate, photographs have been included within the body of the report to illustrate issues identified.
- 1.7 This audit is focussed on the road layout & footway connections to the housing development known as Pod A, Site 1 but with a street names of Printonan Crescent, Ellis Street and Marden Place.
- 1.8 The development is essentially a simple loop road system to the west of the development's spine road (Greenwell Wynd).

- 1.9 In line with GG 119 it should be noted that once the Audit Report has been finalised this ends the involvement of the Audit Team in this stage of the project, unless there are substantial changes that result in the Roads Authority/Project Sponsor requesting another Road Safety Audit of the proposals. On receipt of the final report the Design Team is required to provide the Roads Authority/Project Sponsor with a Road Safety Audit Response Report. This report along with any related Exception Reports should be passed onto the Audit Team for information.
- 1.10 While outwith the area under inspection it was noted that there was extensive ponding at the east end of Ellis Street. This resulted in pedestrians having to walk into the live carriageway and haul route on Greenwell Wynd to avoid the ponding water. It is understood the final surfacing in this area is to be completed towards the end of February, but it should be recognised that the situation is not ideal and that potential short-term improvements should be investigated.



**Note 1:**

The Audit Team notes in relation to the DMRB standard, GG 119: Road Safety Audits, that the following be included in the Audit Team Statement of Road Safety Audit Reports: -

***We certify that this Road Safety Audit has been carried out in accordance with GG 119***

It is this practice's interpretation that once an Audit Team has been approved this statement within a report is solely related to the processes as detailed in GG 119 associated with reviewing the scheme in terms of the documentation provided in the Audit Brief, undertaking site inspections and producing draft and final Road Safety Audit Reports.

The Audit Team is not responsible or the actions of other stakeholders in relation to other management and approval processes contained within the overall audit process.

The Audit Team does however reserve the right, within the introduction of its reports, to highlight and/or explain any areas where the overall audit process has not followed that laid down in the standard.

**Note 2:**

Any reference to a Chapter is a reference to a Chapter of the Traffic Signs Manual, reference to the Regulations is a reference to the Traffic Signs Regulations and General Directions 2016 and any reference to a Diagram (Diag) is a reference to a sign Diagram number in those Regulations. References to standards are those found in the Design Manual for Roads and Bridges.

## 2.0 ACCIDENT RECORD

- 2.1 In the absence of any specific accident records being provided the Road Safety Audit Team have examined the website [www.crashmap.co.uk](http://www.crashmap.co.uk) for injury accidents recorded at the site.
- 2.2 A map based plan of the accidents have been provided in Annex 3
- 2.3 It is noted that for the five-year period from 2014 -2018 there were no accidents directly related to the area of the new development.

## 3.0 ITEMS ARISING FROM THE STAGE 2 AUDIT

- 3.1 The Audit Team note that a Stage 2 Road Safety Audit was undertaken for the whole site in November 2014
- 3.2 Item B.1.4.1 related to the potential for landscaping to obscure visibility. This item is not an issue within the area inspected as part of this audit.
- 3.3 Item B.1.7.1 related to swept paths for larger vehicles. This item is not an issue within the area inspected as part of this audit.
- 3.4 Item B.1.7.2 related to the need for accessible dropped kerbs at locations such as crossing points but also as driveways that act as the main pedestrian route to housing. On site it was noted that multiple kerbs were higher than 25mm at driveways. Dropped kerbs crossing points were lower but not all appeared to be at the 6mm accessible level.
- 3.5 Item B.3.3.1 to B.3.3.3 related to the main junctions to the site and as such are not an issue within the area inspected as part of this audit.
- 3.6 Item B.3.3.4 related to the potential need for give way markings at the side road junctions with the spine road. At present the Audit Team do not believe these are required.
- 3.7 Item B.5.1.1 related to the positioning of lighting columns in shared space areas. This matter appears to have been deal with in an appropriate manner for the areas inspected.

## 4.0 ITEMS ARISING FROM THIS STAGE 3 AUDIT

### 4.1 GENERAL

#### 4.1.1 PROBLEM

The Audit Team have no specific comments to raise under this section at this time.

### 4.2 LOCAL ALIGNMENT

#### 4.2.1

The Audit Team have no comments to raise under this section at this time.

### 4.3 JUNCTIONS

#### 4.3.1

The Audit Team have no comments to raise under this section at this time.

### 4.4 NON MOTORISED USERS (NMU)

#### 4.4.1 PROBLEM

Location: Footpath leading to Frogston Road

Drawing(s): 13006 (PL) 002A

Summary: Incomplete infrastructure can lead pedestrians to and from areas where appropriate surfaces are not provided and can therefore increase the potential for slipping and tripping type accidents

It was noted that the footpath leading from Printonan Crescent to Frogston Road there is no formal surfaced footway connection or crossing point at the north end.



#### RECOMMENDATION

The Audit Team recommends that the path be closed off until appropriate connections and surfacing are provided at Frogston Road.

#### 4.4.2 PROBLEM

Location: Entry to Printonan Crescent from Greenwell Wynd.

Drawing(s): 13006 (PL) 002A

Summary: Missing mono-block in a shared use surface introduces a trip hazard to pedestrians.

It was noted that some mono-block units were missing at the entry to Printonan Crescent.



## RECOMMENDATION

The Audit Team recommends that the mono-block surfacing is repaired to provide a continuous surface.

## 4.5 ROAD SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING

### 4.5.1

The Audit Team have no specific comments to raise under this section at this time.

## 5. AUDIT TEAM STATEMENT

We certify that this audit has been carried out generally in accordance with GG 119

### AUDIT TEAM LEADER

Name: [REDACTED]  
BSc, MSc IEng FIHE, MCIHT, FSoRSA  
Position: Managing Director

Organisation: Stewart Paton Associates Ltd  
Consulting Civil Engineers

Address: 69 Barnton Park Avenue  
Edinburgh  
EH4 6HD

Sign [REDACTED]

Dated: 10 February 2020

### AUDIT TEAM MEMBER

Name: [REDACTED]  
MCIHT, MSoRSA  
Position: Director

Organisation: Stewart Paton Associates Ltd  
Consulting Civil Engineers

Address: 69 Barnton Park Avenue  
Edinburgh  
EH4 6HD

Signed: [REDACTED]

Dated: 10 February 2020

Annex 1 LIST OF PLANS AND DOCUMENTS

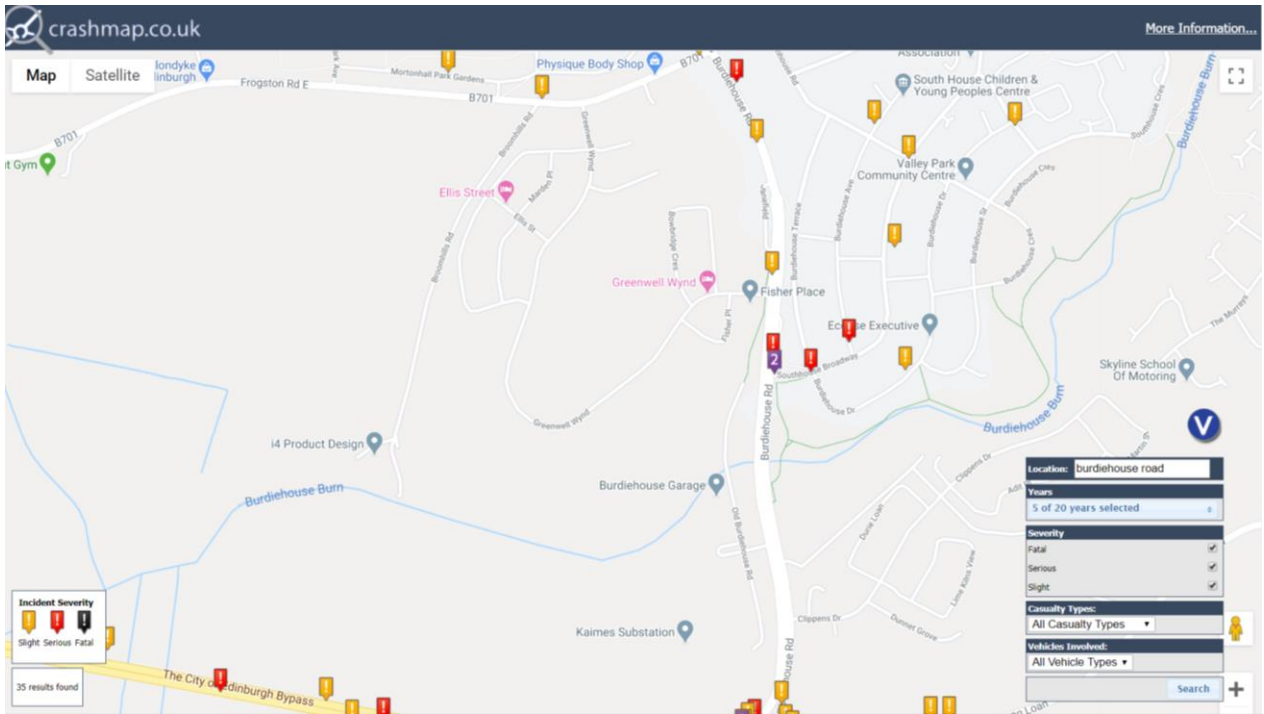
13006 (PL) 002A (From Stage 2 Master Plan)

Annex 2 PROBLEM LOCATION PLAN

- Specific problem areas have been identified and referenced by the comment number in the text
- General issues covering multiple areas have not been highlighted on this plan so as to avoid clutter and potential misinterpretation.



### Annex 3 ACCIDENT RECORD





**STEWART PATON ASSOCIATES**

Consulting Engineers and Forensic Investigation Specialists

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**ROAD LAYOUT  
HOUSING DEVELOPMENT  
FROGSTON ROAD (POD B)  
EDINBURGH**

STAGE 3 ROAD SAFETY AUDIT  
(SPA Ref No: 4282)

Roads Authority: The City of Edinburgh Council

Client: Barratt Homes



Report prepared by:

**Stewart Paton Associates Limited**

69 Barnton Park Avenue, Edinburgh, EH4 6HD

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## **DOCUMENT CONTROL**

### **General**

Project	Road Layout, Frogston Road, Pod B.
Client	Barratt Homes
Document Type	Stage 3 Road Safety Audit
SPA Ref No	4282

### **Report Revisions**

	<b>Originator</b>	<b>Date</b>	<b>Reviewer</b>	<b>Date</b>	<b>Status</b>
Draft –Rev 0		29/04/22	N/A	N/A	For Review
Draft –Rev 1	N/A	N/A		02/05/22	Convert to Final
Final – Rev 0		02/05/22	N/A	N/A	Issue to Client

## 1.0 INTRODUCTION

- 1.1 The report has been prepared for the City of Edinburgh Council as a Stage 3 Road Safety Audit of the road layout of a section of the housing development at Frogston Road / Burdiehouse Road, Edinburgh. The audit was on behalf of Barratt Homes. The Road Safety Audit was carried out during April / May 2022.
- 1.2 The Road Safety Audit Team membership was as follows:
- ██████████, BSc, MSc IEng FIHE, MCIHT, FSoRSA  
Managing Director of Stewart Paton Associates Ltd., Consulting Engineers and Forensic Investigation Specialists  
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- ██████████ MCIHT, MSoRSA  
Director of Stewart Paton Associates Ltd., Consulting Engineers and Forensic Investigation Specialists  
(Certificate of Competency in Road Safety Audit gained in February 2013)
- 1.3 The Road Safety Audit took place at the Edinburgh office of Stewart Paton Associates on 29 April 2022. The Road Safety Audit was undertaken in accordance with the Road Safety Audit Brief / Instruction provided by Barratt Homes. The Road Safety Audit comprised an examination of the documents provided, and these are listed in Annex 1. The Audit Team visited the site of the housing development on 28 April 2022 (daytime) and 7 February 2022 (night-time). ██████████ from Barratt Homes was present at the daytime inspection. During the daytime visit the weather was fair and road the surface was dry. At the night-time site visit the weather was fair and the road surface damp. Traffic conditions were light on both occasions.
- 1.4. The terms of reference of the Road Safety Audit are as described in GG 119. The Road Safety 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.
- 1.5 All comments and recommendations are referenced to the detailed design drawings and the locations have been indicated on plan included in the Annex 2. Where appropriate, photographs have been included within the body of the report to illustrate issues identified.
- 1.6 This audit is focussed on the road layout & footway connections to the housing development known as Pod B
- 1.8 The development includes the roads named, Ellis Street, Dunnikier Way, Catchilraw Drive, and Printonan Crescent.
- 1.9 In line with GG 119 it should be noted that once the Audit Report has been finalised this ends the involvement of the Audit Team in this stage of the project, unless there are substantial changes that result in the Roads Authority/Project Sponsor requesting

another Road Safety Audit of the proposals. On receipt of the final report the Design Team is required to provide the Roads Authority/Project Sponsor with a Road Safety Audit Response Report. This report along with any related Exception Reports should be passed onto the Audit Team for information.

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## 2.0 ACCIDENT RECORD

- 2.1 In the absence of any specific accident records being provided the Road Safety Audit Team have examined the website [www.crashmap.co.uk](http://www.crashmap.co.uk) for injury accidents recorded at the site.
- 2.2 A map based plan of the accidents have been provided in Annex 3
- 2.3 It is noted that for the five-year period from 2017 -2021 there were no accidents directly related to the area of the new development.

## 3.0 ITEMS ARISING FROM THE STAGE 2 AUDIT

- 3.1 The Audit Team note that a Stage 2 Road Safety Audit was undertaken for the whole site in November 2014
- 3.2 Item B.1.4.1 related to the potential for landscaping to obscure visibility. This item is not an issue within the area inspected as part of this audit.
- 3.3 Item B.1.7.1 related to swept paths for larger vehicles. This item is not an issue within the area inspected as part of this audit.
- 3.4 Item B.1.7.2 related to the need for accessible dropped kerbs at locations such as crossing points but also as driveways that act as the main pedestrian route to housing. On site it was noted that multiple kerbs were higher than 25mm at driveways. Dropped kerbs crossing points were lower but not all appeared to be at the 6mm accessible level.
- 3.5 Item B.3.3.1 to B.3.3.3 related to the main junctions to the site and as such are not an issue within the area inspected as part of this audit.
- 3.6 Item B.3.3.4 related to the potential need for give way markings at the side road junctions with the spine road. At present the Audit Team do not believe these are required.
- 3.7 Item B.5.1.1 related to the positioning of lighting columns in shared space areas. This matter appears to have been dealt with in an appropriate manner for the areas inspected.

## 4.0 ITEMS ARISING FROM THIS STAGE 3 AUDIT

### 4.1 GENERAL

#### 4.1.1 PROBLEM

Location: Various  
Drawing(s): E9876~0925  
Summary: Uneven surfaces and gaps in paved areas can result in trip type accidents in shared space areas.

It was noted and understood that a range of ‘snagging issues’ have been identified by the Council’s inspectors during pre-adoption inspections. These included issues such as ironwork being raised and gaps in the surrounding joints. Also, it was noted there were some paving blocks missing from the surface at various points. The image below provides an example of the above issues.



## RECOMMENDATION

It is recommended that the proposed snagging works be completed as soon as possible being that houses are now occupied and pedestrians and cyclists will be using these shared use streets.

## 4.2 LOCAL ALIGNMENT

### 4.2.1

The Audit Team have no comments to raise under this section at this time.

## 4.3 JUNCTIONS

### 4.3.1

The Audit Team have no comments to raise under this section at this time.

## 4.4 NON MOTORISED USERS (NMU)

### 4.4.1

Location: Dunniker Way – East end  
Drawing(s): E9876~0925

Summary: Crossing points on desire lines at junctions should ideally match up to help reduce tripping type accidents and improve accessibility.

At the east end of Dunnikier Way the footpath on the north and south of the junction did not tie-in due to being provide in an off-set manner.

Spray paint had been provided to show the potential line of north side footway to provide a crossing point that tied in with the southside footway.

It was however noted that at the existing north side dropped kerb there were a number of services.

The Audit Team would question if it was perhaps more practical to alter the south side footway alignment. Possibly from the lighting column northwards (See image below)



However as both dropped kerbs appeared to be 'high' it may be both sides for the footway will require work.

## RECOMMENDATION

It is recommended that the proposed snagging works be completed as soon as possible and that the option of altering the south side footway be reviewed by the design team.

### 4.4.2

Location: Various Locations including Dunnikier Way and segregated footway on Printonan Crescent  
Drawing(s): E9876~0925

Summary: Accessible dropped kerbs at a height of 0-6mm help reduce tripping type accidents and improve accessibility.

As with other snagging works, some kerbs including dropped kerbs were marked for alteration on the bases they were not at the accessible height of 0-6mm.

Some examples are below.



## RECOMMENDATION

It is recommended that the proposed snagging works be completed as soon as possible being that houses are now occupied, and pedestrians and cyclists will be using these routes and dropped kerbs.

## 4.5 ROAD SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING

### 4.5.1 PROBLEM

The Audit Team have no comments to raise under this section at this time.

## 5. AUDIT TEAM STATEMENT

We certify that this audit has been carried out generally in accordance with GG 119

### AUDIT TEAM LEADER

Name: [REDACTED]  
BSc, MSc IEng FIHE, MCIHT, FSoRSA  
Position: Managing Director

Signed: [REDACTED]  
Dated: 2 May 2022

Organisation: Stewart Paton Associates Ltd  
Consulting Civil Engineers

Address: 69 Barnton Park Avenue  
Edinburgh  
EH4 6HD

### AUDIT TEAM MEMBER

Name: [REDACTED]  
MCIHT, MSoRSA  
Position: Director

Signed: [REDACTED]  
Dated: 2 May 2022

Organisation: Stewart Paton Associates Ltd  
Consulting Civil Engineers

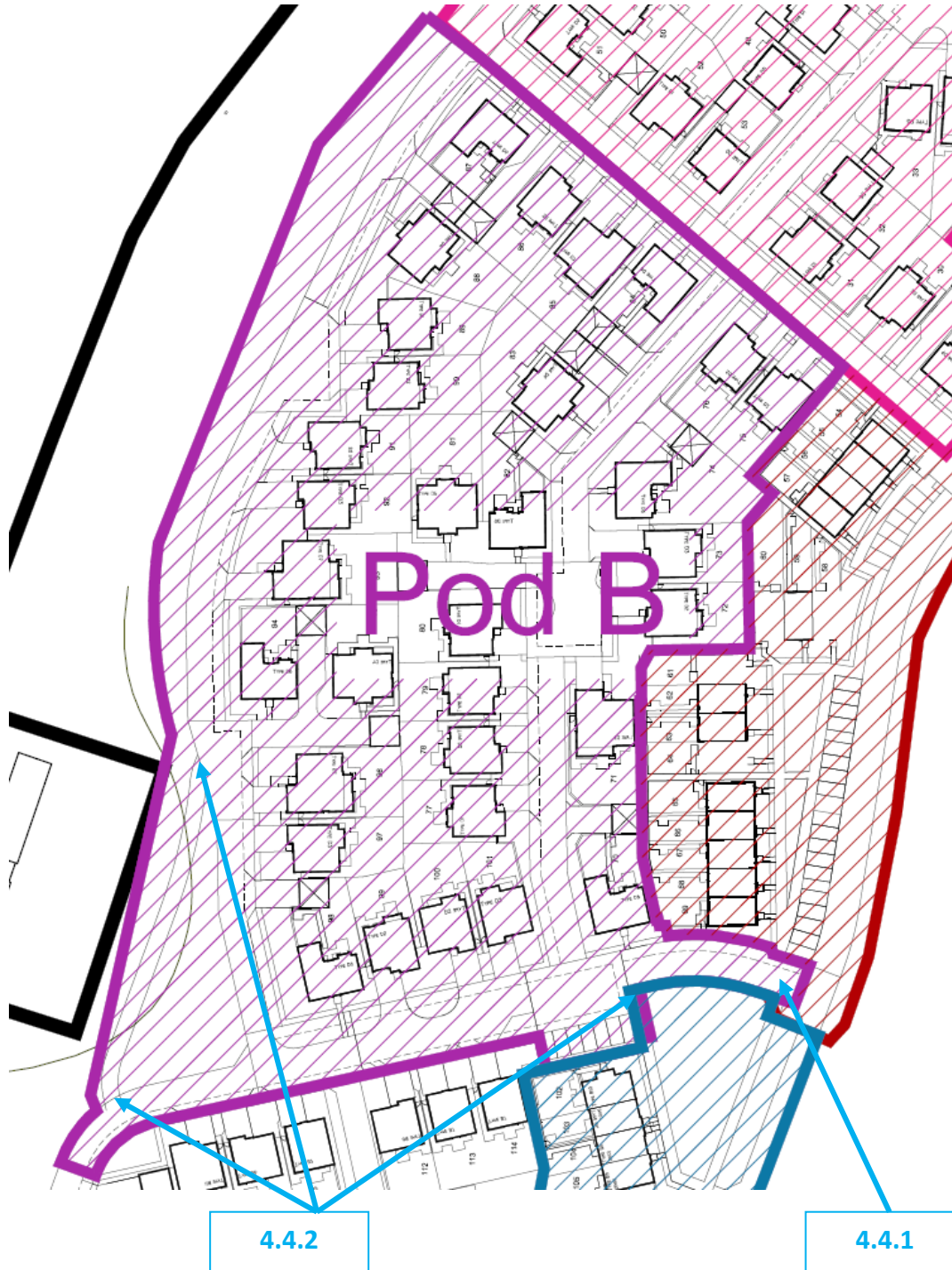
Address: 69 Barnton Park Avenue  
Edinburgh  
EH4 6HD

Annex 1 LIST OF PLANS AND DOCUMENTS

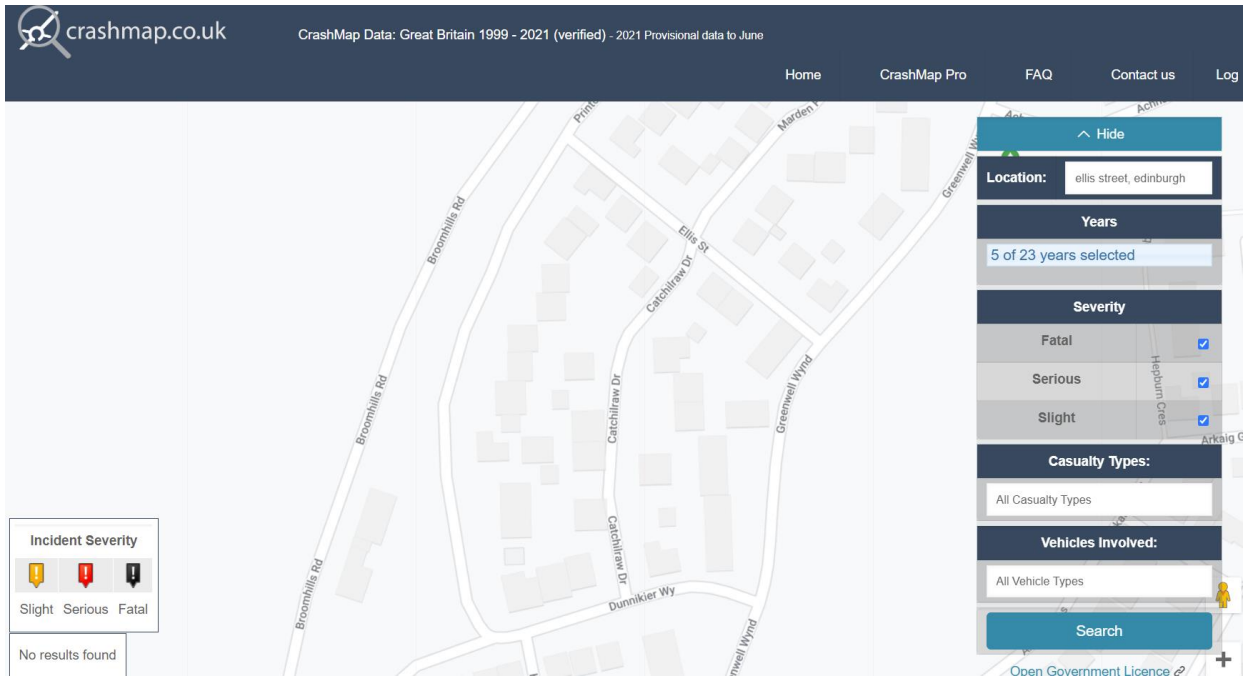
E9876~0925 [Phasing Plan RCC]

Annex 2 PROBLEM LOCATION PLAN

- Specific problem areas have been identified and referenced by the comment number in the text
- General issues covering multiple areas have not been highlighted on this plan so as to avoid clutter and potential misinterpretation.



### Annex 3 ACCIDENT RECORD



The screenshot shows the CrashMap.co.uk interface. At the top, it says 'CrashMap Data: Great Britain 1999 - 2021 (verified) - 2021 Provisional data to June'. The navigation bar includes 'Home', 'CrashMap Pro', 'FAQ', 'Contact us', and 'Log'. The main map area shows a residential street layout in Edinburgh, with labels for 'Broomhills Rd', 'Catchlaw Dr', 'Ellis St', 'Greenwell Wynd', 'Dunnikier Wy', and 'Marsden'. A search panel on the right is open, showing the following filters:

- Location:** ellis street, edinburgh
- Years:** 5 of 23 years selected
- Severity:** Fatal , Serious , Slight
- Casualty Types:** All Casualty Types
- Vehicles Involved:** All Vehicle Types

A 'Search' button is at the bottom of the panel. Below the map, a legend for 'Incident Severity' shows icons for Slight (yellow), Serious (red), and Fatal (black). Below the legend, it says 'No results found'. At the bottom right of the map area, there is a link for 'Open Government Licence'.



**STEWART PATON ASSOCIATES**

Consulting Engineers and Forensic Investigation Specialists

**ROAD LAYOUT  
HOUSING DEVELOPMENT  
FROGSTON ROAD (POD C)  
EDINBURGH**

STAGE 3 ROAD SAFETY AUDIT  
(SPA Ref No: 4282)

Roads Authority: The City of Edinburgh Council

Client: Barratt Homes



Report prepared by:

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69 Barnton Park Avenue, Edinburgh, EH4 6HD

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**DOCUMENT CONTROL**

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Project	Road Layout, Frogston Road, Pod C.
Client	Barratt Homes
Document Type	Stage 3 Road Safety Audit
SPA Ref No	4282

**Report Revisions**

	Originator	Date	Reviewer	Date	Status
Draft –Rev 0		15/02/22	N/A	N/A	For Review
Draft –Rev 1	N/A	N/A		16/02/22	Convert to Final
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- 1.6 This audit is focussed on the road layout & footway connections to the housing development known as Pod C.
- 1.8 The development includes the main routes of Banchor Terrace, Wilkinson Drive and the northern section of Dunnikier Way.
- 1.9 In line with GG 119 it should be noted that once the Audit Report has been finalised this ends the involvement of the Audit Team in this stage of the project, unless there are substantial changes that result in the Roads Authority/Project Sponsor requesting

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- 2.1 In the absence of any specific accident records being provided the Road Safety Audit Team have examined the website [www.crashmap.co.uk](http://www.crashmap.co.uk) for injury accidents recorded at the site.
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- 2.3 It is noted that for the five-year period from 2016 -2020 there were no accidents directly related to the area of the new development.

## 3.0 ITEMS ARISING FROM THE STAGE 2 AUDIT

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## 4.0 ITEMS ARISING FROM THIS STAGE 3 AUDIT

### 4.1 GENERAL

#### 4.1.1 PROBLEM

Location: Various  
Drawing(s): E9876~0925  
Summary: Ironwork sitting high in a shared surface area can be a trip hazard to pedestrians.

An example of potential trip hazards due to high ironwork can be seen below.



## RECOMMENDATION

It is recommended that ironwork within the development area is reviewed to ensure there are no raised elements.

### 4.2 LOCAL ALIGNMENT

#### 4.2.1

The Audit Team have no comments to raise under this section at this time.

### 4.3 JUNCTIONS

#### 4.3.1

The Audit Team have no comments to raise under this section at this time.

### 4.4 NON MOTORISED USERS (NMU)

#### 4.4.1

The Audit Team have no comments to raise under this section at this time.

### 4.5 ROAD SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING

#### 4.5.1 PROBLEM

Location: Dunnikier Way at Plot  
Drawing(s): E9876~0925

Summary: A lack of street lighting can increase the potential for road users to miss obstructions or level differences in the surface.

At plot 152 it was noted that the lighting column had a 'dark' head.



#### RECOMMENDATION

It is recommended that the lighting head be examined and repaired as soon as possible.

## 5. AUDIT TEAM STATEMENT

We certify that this audit has been carried out generally in accordance with GG 119

### AUDIT TEAM LEADER

Name: [REDACTED]  
BSc, MSc IEng FIHE, MCIHT, FSoRSA  
Position: Managing Director

Signed: [REDACTED]  
Dated: 16 February 2022

Organisation: Stewart Paton Associates Ltd  
Consulting Civil Engineers

Address: 69 Barnton Park Avenue  
Edinburgh  
EH4 6HD

### AUDIT TEAM MEMBER

Name: [REDACTED]  
MCIHT, MSoRSA  
Position: Director

Signed: [REDACTED]  
Dated: 16 February 2022

Organisation: Stewart Paton Associates Ltd  
Consulting Civil Engineers

Address: 69 Barnton Park Avenue  
Edinburgh  
EH4 6HD

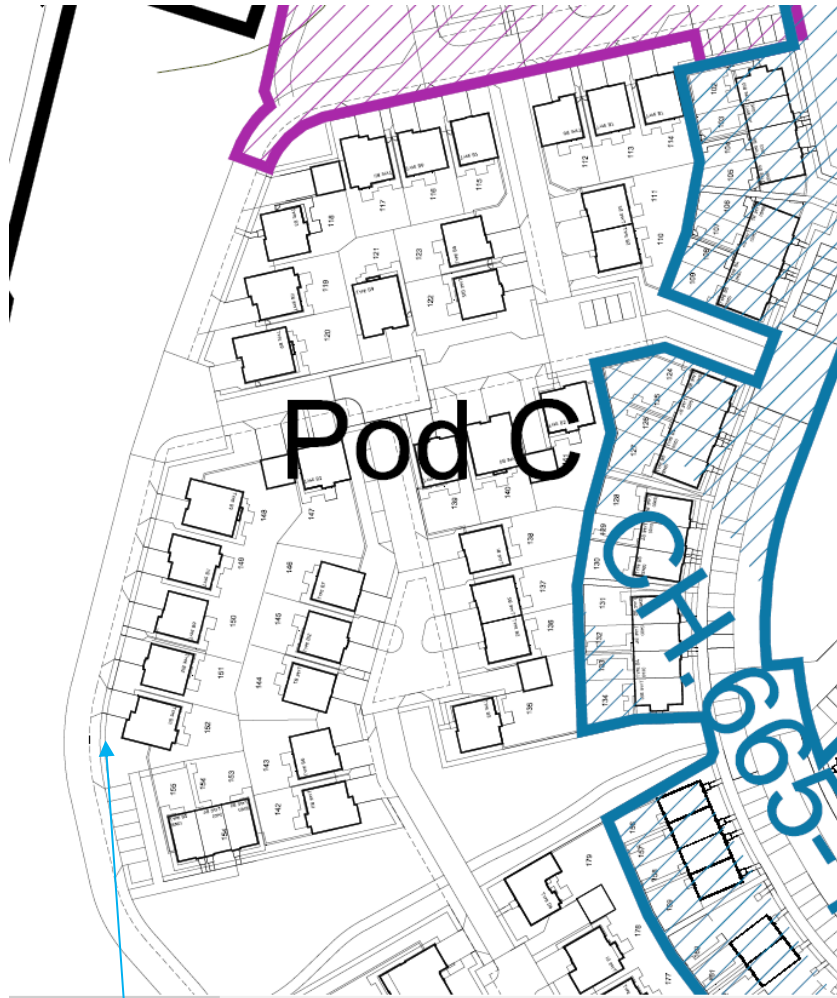
Annex 1 LIST OF PLANS AND DOCUMENTS

E9876~0925 [Phasing Plan RCC]

Annex 2 PROBLEM LOCATION PLAN

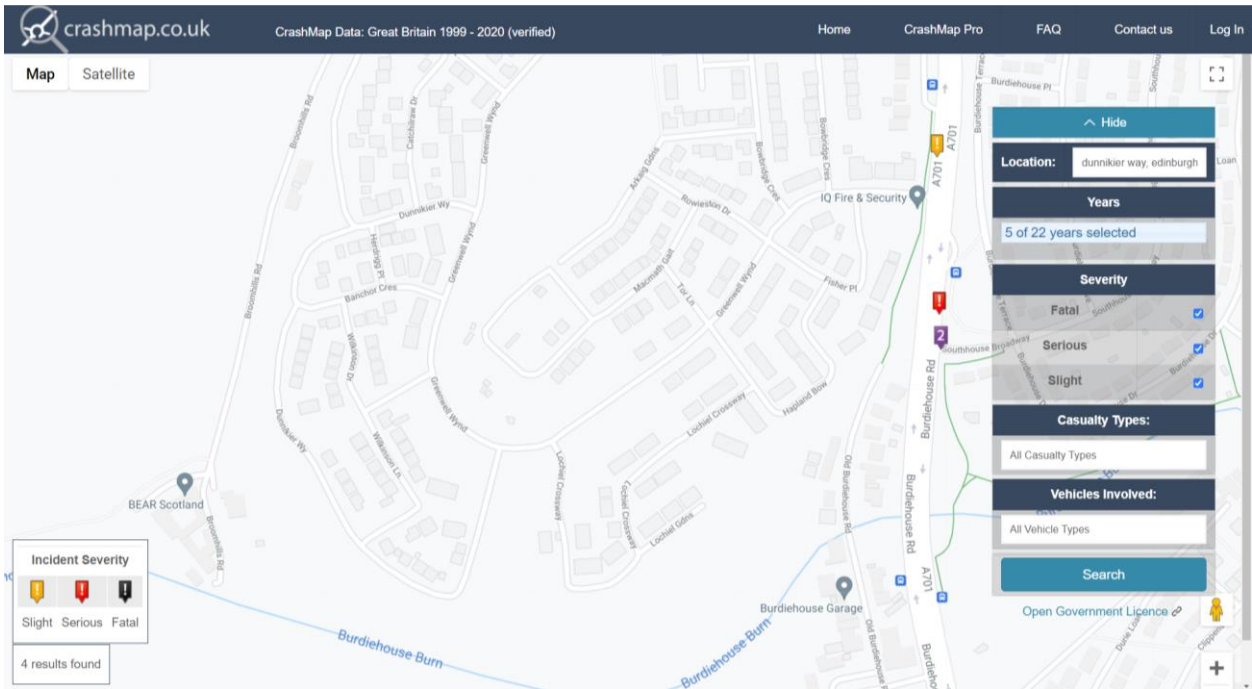
- Specific problem areas have been identified and referenced by the comment number in the text
- General issues covering multiple areas have not been highlighted on this plan so as to avoid clutter and potential misinterpretation.

4.4.2



4.5.1

### Annex 3 ACCIDENT RECORD





**STEWART PATON ASSOCIATES**

Consulting Engineers and Forensic Investigation Specialists

---

**ROAD LAYOUT  
HOUSING DEVELOPMENT  
FROGSTON ROAD (POD E)  
EDINBURGH**

STAGE 3 ROAD SAFETY AUDIT  
(SPA Ref No: 4282)

Roads Authority: The City of Edinburgh Council

Client: Barratt Homes



Report prepared by:

**Stewart Paton Associates Limited**

69 Barnton Park Avenue, Edinburgh, EH4 6HD

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## **DOCUMENT CONTROL**

### **General**

Project	Road Layout, Frogston Road, Pod E.
Client	Barratt Homes
Document Type	Stage 3 Road Safety Audit
SPA Ref No	4282

### **Report Revisions**

	<b>Originator</b>	<b>Date</b>	<b>Reviewer</b>	<b>Date</b>	<b>Status</b>
Draft –Rev 0		15/02/22	N/A	N/A	For Review
Draft –Rev 1	N/A	N/A		16/02/22	Convert to Final
Final – Rev 0		16/02/22	N/A	N/A	Issue to Client

## 1.0 INTRODUCTION

- 1.1 The report has been prepared for the City of Edinburgh Council as a Stage 3 Road Safety Audit of the road layout of a section of the housing development at Frogston Road / Burdiehouse Road, Edinburgh. The audit was on behalf of Barratt Homes. The Road Safety Audit was carried out during February 2022.
- 1.2 The Road Safety Audit Team membership was as follows:
- ██████████, BSc, MSc IEng FIHE, MCIHT, FSoRSA  
Managing Director of Stewart Paton Associates Ltd., Consulting Engineers and Forensic Investigation Specialists  
(Certificate of Competency in Road Safety Audit gained in August 2017)
- ██████████, MCIHT, MSoRSA  
Director of Stewart Paton Associates Ltd., Consulting Engineers and Forensic Investigation Specialists  
(Certificate of Competency in Road Safety Audit gained in February 2013)
- 1.3 The Road Safety Audit took place at the Edinburgh office of Stewart Paton Associates on 16 February 2022. The Road Safety Audit was undertaken in accordance with the Road Safety Audit Brief / Instruction provided by Barratt Homes. The Road Safety Audit comprised an examination of the documents provided, and these are listed in Annex 1. The Audit Team visited the site of the housing development on both 9 February 2022 (daytime) and 7 February 2022 (night-time). ██████████ from Barratt Homes was present at the daytime inspection. During the daytime visit the weather was fair and road the surface was damp from earlier showers. At the night-time site visit the weather was fair and the road surface damp. Traffic conditions were light on both occasions.
- 1.4. The terms of reference of the Road Safety Audit are as described in GG 119. The Road Safety 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.
- 1.5 All comments and recommendations are referenced to the detailed design drawings and the locations have been indicated on plan included in the Annex 2. Where appropriate, photographs have been included within the body of the report to illustrate issues identified.
- 1.6 This audit is focussed on the road layout & footway connections to the housing development known as Pod E.
- 1.8 The development includes the main route of Lochiel Crossway.
- 1.9 In line with GG 119 it should be noted that once the Audit Report has been finalised this ends the involvement of the Audit Team in this stage of the project, unless there are substantial changes that result in the Roads Authority/Project Sponsor requesting another Road Safety Audit of the proposals. On receipt of the final report the Design Team

is required to provide the Roads Authority/Project Sponsor with a Road Safety Audit Response Report. This report along with any related Exception Reports should be passed onto the Audit Team for information.

**Note 1:**

The Audit Team notes in relation to the DMRB standard, GG 119: Road Safety Audits, that the following be included in the Audit Team Statement of Road Safety Audit Reports: -

***We certify that this Road Safety Audit has been carried out in accordance with GG 119***

It is this practice's interpretation that once an Audit Team has been approved this statement within a report is solely related to the processes as detailed in GG 119 associated with reviewing the scheme in terms of the documentation provided in the Audit Brief, undertaking site inspections and producing draft and final Road Safety Audit Reports.

The Audit Team is not responsible or the actions of other stakeholders in relation to other management and approval processes contained within the overall audit process.

The Audit Team does however reserve the right, within the introduction of its reports, to highlight and/or explain any areas where the overall audit process has not followed that laid down in the standard.

**Note 2:**

Any reference to a Chapter is a reference to a Chapter of the Traffic Signs Manual, reference to the Regulations is a reference to the Traffic Signs Regulations and General Directions 2016 and any reference to a Diagram (Diag) is a reference to a sign Diagram number in those Regulations. References to standards are those found in the Design Manual for Roads and Bridges.

## 2.0 ACCIDENT RECORD

- 2.1 In the absence of any specific accident records being provided the Road Safety Audit Team have examined the website [www.crashmap.co.uk](http://www.crashmap.co.uk) for injury accidents recorded at the site.
- 2.2 A map based plan of the accidents have been provided in Annex 3
- 2.3 It is noted that for the five-year period from 2016 -2020 there were no accidents directly related to the area of the new development.

## 3.0 ITEMS ARISING FROM THE STAGE 2 AUDIT

- 3.1 The Audit Team note that a Stage 2 Road Safety Audit was undertaken for the whole site in November 2014
- 3.2 Item B.1.4.1 related to the potential for landscaping to obscure visibility. This item is not an issue within the area inspected as part of this audit.
- 3.3 Item B.1.7.1 related to swept paths for larger vehicles. This item is not an issue within the area inspected as part of this audit.
- 3.4 Item B.1.7.2 related to the need for accessible dropped kerbs at locations such as crossing points but also as driveways that act as the main pedestrian route to housing. On site it was noted that multiple kerbs were higher than 25mm at driveways. Dropped kerbs crossing points were lower but not all appeared to be at the 6mm accessible level.
- 3.5 Item B.3.3.1 to B.3.3.3 related to the main junctions to the site and as such are not an issue within the area inspected as part of this audit.
- 3.6 Item B.3.3.4 related to the potential need for give way markings at the side road junctions with the spine road. At present the Audit Team do not believe these are required.
- 3.7 Item B.5.1.1 related to the positioning of lighting columns in shared space areas. This matter appears to have been dealt with in an appropriate manner for the areas inspected.

## 4.0 ITEMS ARISING FROM THIS STAGE 3 AUDIT

### 4.1 GENERAL

#### 4.1.1 PROBLEM

Location: SUDS Pond  
Drawing(s): E9876~0925  
Summary: Unprotected embankments can result in users reaching a SUDS pond.

It was noted that works were still ongoing at the south end of the SUDS pond. As such the proposed walls, fencing and planting designed to define the top of the embankment at the SUDS pond has not been provided.

## RECOMMENDATION

It is recommended that the proposed works be completed as soon as possible being that some houses in this area are now occupied.

## 4.2 LOCAL ALIGNMENT

### 4.2.1

The Audit Team have no comments to raise under this section at this time.

## 4.3 JUNCTIONS

### 4.3.1

The Audit Team have no comments to raise under this section at this time.

## 4.4 NON MOTORISED USERS (NMU)

### 4.4.1

The Audit Team have no comments to raise under this section at this time

## 4.5 ROAD SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING

### 4.5.1 PROBLEM

Location: Footpath at north end of SUDS pond linking to Pod G

Drawing(s): E9876~0925

Summary: A lack of street lighting can increase the potential for road users to miss obstructions or level differences in the surface.

At the above location the gravel footpath that runs from Pod E to Pod G there is no lighting provision.

The Audit Team felt that the area appeared relatively dark at night-time. It is appreciated that there is a lit carriageway further north that offers an alternative route. However, the concern is that the gravel footpath is more likely to deteriorate over time and become potholed. This may increase the potential for tripping type incidents if the lighting conditions are limited.

The footpath may be used by residents, including dog walkers.

## RECOMMENDATION

It is appreciated that this footpath does not lead directly to properties and has been provided to have a more 'rural' aspect. As this path is most likely not part of the adopted road network this issue is one that the developer should consider in terms of the risk of any future legal action should a person trip on this path in the hours of darkness.

## 5. AUDIT TEAM STATEMENT

We certify that this audit has been carried out generally in accordance with GG 119

### AUDIT TEAM LEADER

Name: [REDACTED]  
BSc, MSc IEng FIHE, MCIHT, FSoRSA  
Position: Managing Director

Signed: [REDACTED]

Dated: 16 February 2022

Organisation: Stewart Paton Associates Ltd  
Consulting Civil Engineers

Address: 69 Barnton Park Avenue  
Edinburgh  
EH4 6HD

### AUDIT TEAM MEMBER

Name: [REDACTED]  
MCIHT, MSoRSA  
Position: Director

Signed: [REDACTED]

Dated: 16 February 2022

Organisation: Stewart Paton Associates Ltd  
Consulting Civil Engineers

Address: 69 Barnton Park Avenue  
Edinburgh  
EH4 6HD

Annex 1 LIST OF PLANS AND DOCUMENTS

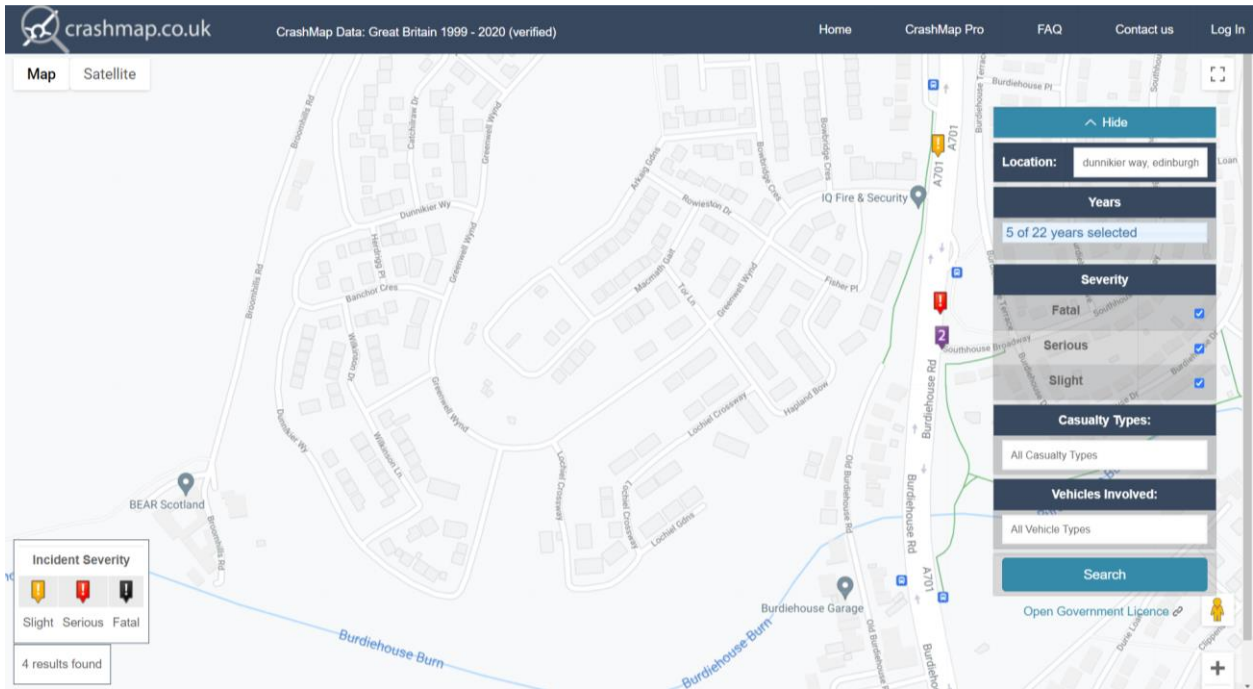
E9876~0925 [Phasing Plan RCC]

Annex 2 PROBLEM LOCATION PLAN

- Specific problem areas have been identified and referenced by the comment number in the text
- General issues covering multiple areas have not been highlighted on this plan so as to avoid clutter and potential misinterpretation.



### Annex 3 ACCIDENT RECORD





**STEWART PATON ASSOCIATES**  
Consulting Engineers and Forensic Investigation Specialists

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**ROAD LAYOUT  
HOUSING DEVELOPMENT  
FROGSTON ROAD (POD F)  
EDINBURGH**

STAGE 3 ROAD SAFETY AUDIT  
(SPA Ref No: 4282)

Roads Authority: The City of Edinburgh Council

Client: Barratt Homes



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## **DOCUMENT CONTROL**

### **General**

Project	Road Layout, Frogston Road, Pod F
Client	Barratt Homes
Document Type	Stage 3 Road Safety Audit
SPA Ref No	4282

### **Report Revisions**

	<b>Originator</b>	<b>Date</b>	<b>Reviewer</b>	<b>Date</b>	<b>Status</b>
Draft –Rev 0		21/12/23	N/A	N/A	For Review
Draft –Rev 1	N/A	N/A		21/12/23	Convert to Final
Final – Rev 0		21/12/23	N/A	N/A	Issue to Client

## 1.0 INTRODUCTION

- 1.1 The report has been prepared for the City of Edinburgh Council as a Stage 3 Road Safety Audit of the road layout of a section of the housing development at Frogston Road / Burdiehouse Road, Edinburgh. The audit was on behalf of Barratt Homes. The Road Safety Audit was carried out during December 2023.
- 1.2 The Road Safety Audit Team membership was as follows:
- ██████████, BSc, MSc IEng FIHE, MCIHT, FSoRSA  
Managing Director of Stewart Paton Associates Ltd., Consulting Engineers and Forensic Investigation Specialists  
(Certificate of Competency in Road Safety Audit gained in August 2017)
- ██████████, HNC, MIHE  
Consultant to Stewart Paton Associates Ltd., Consulting Engineers and Forensic Investigation Specialists
- 1.3 The Road Safety Audit took place at the Edinburgh office of Stewart Paton Associates on 21 December 2023. The Road Safety Audit was undertaken in accordance with the Road Safety Audit Brief / Instruction provided by Barratt Homes. The Road Safety Audit comprised an examination of the documents provided, and these are listed in Annex 1. The Audit Team visited the site of the housing development on 21 December 2023 & 19 December 2023 respectively for a daytime & night-time inspection. During the daytime visit the weather was fair, the road surface was dry (with damp patches) and traffic volumes were light.
- 1.4. The terms of reference of the Road Safety Audit are as described in GG 119. The Road Safety 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.
- 1.5 All comments and recommendations are referenced to the detailed design drawings and the locations have been indicated on plan included in the Annex 2. Where appropriate, photographs have been included within the body of the report to illustrate issues identified.
- 1.6 This audit is focussed on the road layout & footway connections to the housing development known as Pod F
- 1.7 The development includes the roads that form the western section of Arkaig Gardens and Macmath Gait.
- 1.8 In line with GG 119 it should be noted that once the Audit Report has been finalised this ends the involvement of the Audit Team in this stage of the project, unless there are substantial changes that result in the Roads Authority/Project Sponsor requesting another Road Safety Audit of the proposals. On receipt of the final report the Design Team is required to provide the Roads Authority/Project Sponsor with a Road Safety Audit

Response Report. This report along with any related Exception Reports should be passed onto the Audit Team for information.

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## 2.0 ACCIDENT RECORD

- 2.1 In the absence of any specific accident records being provided the Road Safety Audit Team have examined the website [www.crashmap.co.uk](http://www.crashmap.co.uk) for injury accidents recorded at the site.
- 2.2 A map based plan of the accidents have been provided in Annex 3
- 2.3 It is noted that for the five-year period from 2018 -2022 there were no accidents directly related to the area of the new development.

## 3.0 ITEMS ARISING FROM THE STAGE 2 AUDIT

- 3.1 The Audit Team note that a Stage 2 Road Safety Audit was undertaken for the whole site in November 2014
- 3.2 Item B.1.4.1 related to the potential for landscaping to obscure visibility. This item is not an issue within the area inspected as part of this audit.
- 3.3 Item B.1.7.1 related to swept paths for larger vehicles. This item is not an issue within the area inspected as part of this audit.
- 3.4 Item B.1.7.2 related to the need for accessible dropped kerbs at locations such as crossing points but also as driveways that act as the main pedestrian route to housing. On site it was noted that multiple kerbs were higher than 25mm at driveways. Dropped kerbs crossing points were lower but not all appeared to be at the 6mm accessible level.
- 3.5 Item B.3.3.1 to B.3.3.3 related to the main junctions to the site and as such are not an issue within the area inspected as part of this audit.
- 3.6 Item B.3.3.4 related to the potential need for give way markings at the side road junctions with the spine road. At present the Audit Team do not believe these are required.
- 3.7 Item B.5.1.1 related to the positioning of lighting columns in shared space areas. This matter appears to have been dealt with in an appropriate manner for the areas inspected.

## 4.0 ITEMS ARISING FROM THIS STAGE 3 AUDIT

### 4.1 GENERAL

#### 4.1.1 PROBLEM

The Audit Team have no comments to raise under this section at this time.

### 4.2 LOCAL ALIGNMENT

#### 4.2.1

The Audit Team have no comments to raise under this section at this time.

### 4.3 JUNCTIONS

#### 4.3.1

The Audit Team have no comments to raise under this section at this time.

### 4.4 NON MOTORISED USERS (NMU)

#### 4.4.1

The Audit Team have no comments to raise under this section at this time.

### 4.5 ROAD SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING

#### 4.5.1

The Audit Team have no comments to raise under this section at this time.  
The lighting system was observed to be fully operational during the night-time inspection.

## 5.0 AUDIT TEAM STATEMENT

We certify that this audit has been carried out generally in accordance with GG 119

### AUDIT TEAM LEADER

Name: [REDACTED]  
BSc, MSc IEng FIHE, MCIHT, FSoRSA  
Position: Managing Director

Signed: [REDACTED]

Dated: 21 December 2023

Organisation: Stewart Paton Associates Ltd  
Consulting Civil Engineers

Address: 69 Barnton Park Avenue  
Edinburgh  
EH4 6HD

### AUDIT TEAM MEMBER

Name: [REDACTED]  
HNC, MIHE  
Position: Consultant

Signed: [REDACTED]

Dated: 21 December 2023

Organisation: Stewart Paton Associates Ltd  
Consulting Civil Engineers

Address: 69 Barnton Park Avenue  
Edinburgh  
EH4 6HD

Annex 1 LIST OF PLANS AND DOCUMENTS

E9876~0925 [Phasing Plan RCC]

E9876-1538\_Roads and Sewers\_AFU\_Pod F Road Adoption Plan\_C

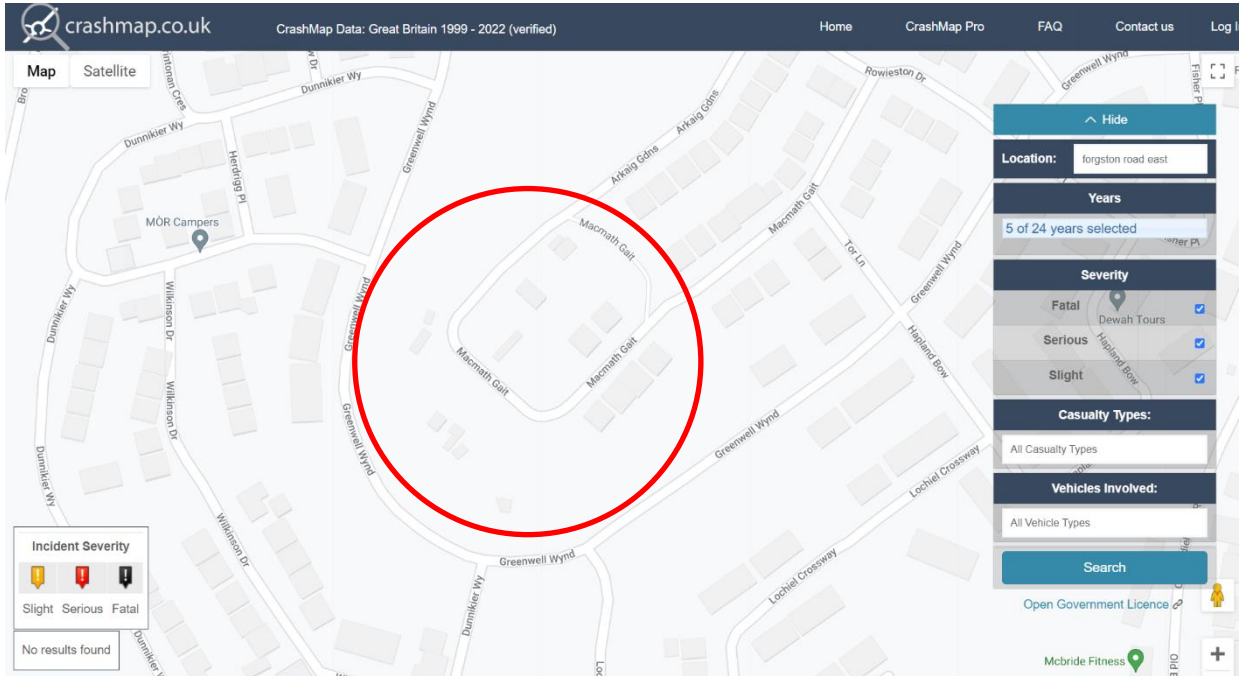
## Annex 2 PROBLEM LOCATION PLAN

- Specific problem areas have been identified and referenced by the comment number in the text
- General issues covering multiple areas have not been highlighted on this plan so as to avoid clutter and potential misinterpretation.

(Pod F highlighted in red circle below)



### Annex 3 ACCIDENT RECORD





**STEWART PATON ASSOCIATES**

Consulting Engineers and Forensic Investigation Specialists

**ROAD LAYOUT  
HOUSING DEVELOPMENT  
FROGSTON ROAD (POD G, Ph 1, SITE 4)  
EDINBURGH**

STAGE 3 ROAD SAFETY AUDIT  
(SPA Ref No: 4282)

Roads Authority: The City of Edinburgh Council

Client: Barratt Homes



Report prepared by:

**Stewart Paton Associates Limited**

69 Barnton Park Avenue, Edinburgh, EH4 6HD

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## **DOCUMENT CONTROL**

### **General**

Project	Road Layout, Frogston Road, Pod G, Ph 1, Site 4
Client	Barratt Homes
Document Type	Stage 3 Road Safety Audit
SPA Ref No	4282

### **Report Revisions**

	<b>Originator</b>	<b>Date</b>	<b>Reviewer</b>	<b>Date</b>	<b>Status</b>
Draft –Rev 0		06/02/20	N/A	N/A	For Review
Draft –Rev 1	N/A	N/A		07/012/20	Convert to Final
Final – Rev 0		10/02/20	N/A	N/A	Issue to Client

## 1.0 INTRODUCTION

- 1.1 The report has been prepared for the City of Edinburgh Council as a Stage 3 Road Safety Audit of the road layout of a section of the housing development at Frogston Road / Burdiehouse Road, Edinburgh. The audit was on behalf of Barratt Homes. The Road Safety Audit was carried out during January and February 2020.
- 1.2 The Road Safety Audit Team membership was as follows:
- ██████████, BSc, MSc IEng FIHE, MCIHT, FSoRSA  
Managing Director of Stewart Paton Associates Ltd., Consulting Engineers and Forensic Investigation Specialists  
(Certificate of Competency in Road Safety Audit gained in August 2017)
- ██████████, MCIHT, MSoRSA  
Director of Stewart Paton Associates Ltd., Consulting Engineers and Forensic Investigation Specialists  
(Certificate of Competency in Road Safety Audit gained in February 2013)
- 1.3 The Road Safety Audit took place at the Edinburgh office of Stewart Paton Associates on 6 February 2020. The Road Safety Audit was undertaken in accordance with the Road Safety Audit Brief / Instruction provided by Barratt Homes. The Road Safety Audit comprised an examination of the documents provided and these are listed in Annex 1. The Audit Team visited the site of the access junction and housing development on both 30 January (daytime) and 6 February (night-time) 2020. During both the day and night site visits the weather was fair and the road surface dry. Traffic conditions were light on both occasions.
- 1.4 The daytime inspection was also attended by ██████████ of Barratt Homes.
- 1.5. The terms of reference of the Road Safety Audit are as described in GG 119. The Road Safety 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.
- 1.6 All comments and recommendations are referenced to the detailed design drawings and the locations have been indicated on plan included in the Annex 2. Where appropriate, photographs have been included within the body of the report to illustrate issues identified.
- 1.7 This audit is focussed on the road layout & footway connections to the housing development known as Pod G, Ph 1, Site 4 but with a street name of Fisher Place.
- 1.8 The development is essentially a simple loop road to the south of the development's spine road (Greenwell Wynd).
- 1.9 In line with GG 119 it should be noted that once the Audit Report has been finalised this ends the involvement of the Audit Team in this stage of the project, unless there are

substantial changes that result in the Roads Authority/Project Sponsor requesting another Road Safety Audit of the proposals. On receipt of the final report the Design Team is required to provide the Roads Authority/Project Sponsor with a Road Safety Audit Response Report. This report along with any related Exception Reports should be passed onto the Audit Team for information.

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The Audit Team notes in relation to the DMRB standard, GG 119: Road Safety Audits, that the following be included in the Audit Team Statement of Road Safety Audit Reports: -

***We certify that this Road Safety Audit has been carried out in accordance with GG 119***

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## 2.0 ACCIDENT RECORD

- 2.1 In the absence of any specific accident records being provided the Road Safety Audit Team have examined the website [www.crashmap.co.uk](http://www.crashmap.co.uk) for injury accidents recorded at the site.
- 2.2 A map based plan of the accidents have been provided in Annex 3
- 2.3 It is noted that for the five-year period from 2014 -2018 there were no accidents directly related to the area of the new development.

## 3.0 ITEMS ARISING FROM THE STAGE 2 AUDIT

- 3.1 The Audit Team note that a Stage 2 Road Safety Audit was undertaken for the whole site in November 2014
- 3.2 Item B.1.4.1 related to the potential for landscaping to obscure visibility. This item is not an issue within the area inspected as part of this audit.
- 3.3 Item B.1.7.1 related to swept paths for larger vehicles. This item is not an issue within the area inspected as part of this audit.
- 3.4 Item B.1.7.2 related to the need for accessible dropped kerbs at locations such as crossing points but also as driveways that act as the main pedestrian route to housing. On site it was noted that multiple kerbs were higher than 25mm at driveways. Dropped kerbs crossing points were lower but not all appeared to be at the 6mm accessible level.
- 3.5 Item B.3.3.1 to B.3.3.3 related to the main junctions to the site and as such are not an issue within the area inspected as part of this audit.
- 3.6 Item B.3.3.4 related to the potential need for give way markings at the side road junctions with the spine road. At present the Audit Team do not believe these are required.
- 3.7 Item B.5.1.1 related to the positioning of lighting columns in shared space areas. This matter appears to have been deal with in an appropriate manner for the areas inspected.

## 4.0 ITEMS ARISING FROM THIS STAGE 3 AUDIT

### 4.1 GENERAL

#### 4.1.1 PROBLEM

Location: Paths on the adopted footpath network

Drawing(s): 13006 (PL) 002A

Summary: Poor surface drainage can result in ponding. This in turn can cause a slip hazard to pedestrians especially in wintery conditions.

It was noted that on a footpath on the west section of Fisher Place, close to Greenhill Wynd there was evidence of ponding due to an uneven surface and the inability of water to flow, as intended to the nearby gully.

#### RECOMMENDATION

This Audit Team recommends that the surfacing and drainage arrangements in this area be reviewed with a view to ensuring surface water can be cleared as intended.



#### 4.1.2 PROBLEM

Location: Parking Bays, west side of Fisher Place.

Drawing(s): 13006 (PL) 002A

Summary: Poor and inconsiderate parking can lead to obstructions on other sections of road, which in turn may lead to a higher potential of conflicts between users.

On site it was noted that some cars were not parking efficiently within the bays provided. This in turn appears to result in other residents parking 'on-street' on a narrow section of road.

#### RECOMMENDATION

This Audit Team recommends that the need for providing coloured mono block to highlight individual bays in some parking bays be reviewed.

### 4.2 LOCAL ALIGNMENT

#### 4.2.1

The Audit Team have no comments to raise under this section at this time.

### 4.3 JUNCTIONS

#### 4.3.1

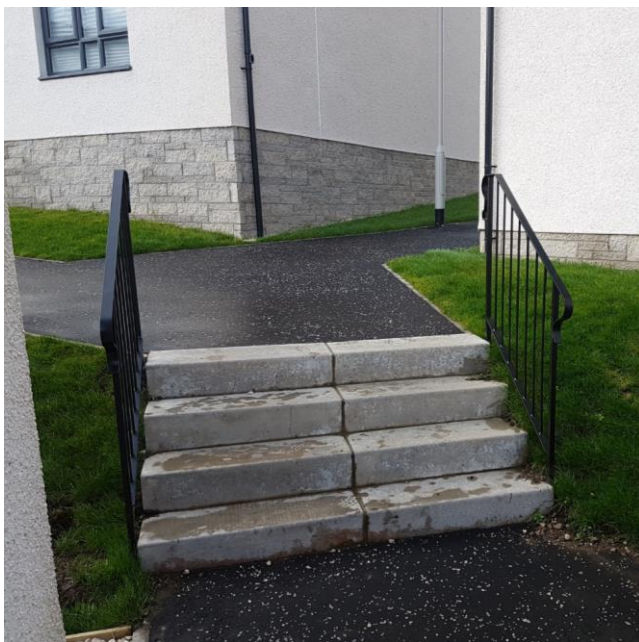
The Audit Team have no comments to raise under this section at this time.

## 4.4 NON MOTORISED USERS (NMU)

### 4.4.1 PROBLEM

Location: Two sets of steps on the adopted footpath network on the east side of Fisher Place  
Drawing(s): 13006 (PL) 002A  
Summary: Tactile paving at steps allows users with visual impairments to identify changes in level and reduce the probability of falls.

It was noted that there were two sets of steps that had not been provided with tactile paving, at the top and bottom of the steps, to warn users of the change in level on the path network.



### RECOMMENDATION

This Audit Team recommends that appropriate tactile paving layouts be provided at these locations as soon as possible.

### 4.4.2 PROBLEM

Location: Two locations on the footpath network to west side of Fisher Place.  
Drawing(s): 13006 (PL) 002A  
Summary:  
A lack of dropped kerbs at crossing points and transitions to shared space surfaces can increase the potential for trip type accidents.

It was noted that there were two locations where footpaths met a shared surface area, but no dropped kerbs were provided.



## RECOMMENDATION

This Audit Team recommends that dropped kerbs be provided at these locations.

## 4.5 ROAD SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING

### 4.5.1

The Audit Team have no specific comments to raise under this section at this time.

## 5. AUDIT TEAM STATEMENT

We certify that this audit has been carried out generally in accordance with GG 119

### AUDIT TEAM LEADER

Name: [REDACTED]  
BSc, MSc IEng FIHE, MCIHT, FSoRSA  
Position: Managing Director

Signed: [REDACTED]  
Dated: 10 February 2020

Organisation: Stewart Paton Associates Ltd  
Consulting Civil Engineers

Address: 69 Barnton Park Avenue  
Edinburgh  
EH4 6HD

### AUDIT TEAM MEMBER

Name: [REDACTED]  
MCIHT, MSoRSA  
Position: Director

Signed: [REDACTED]  
Dated: 10 February 2020

Organisation: Stewart Paton Associates Ltd  
Consulting Civil Engineers

Address: 69 Barnton Park Avenue  
Edinburgh  
EH4 6HD

Annex 1 LIST OF PLANS AND DOCUMENTS

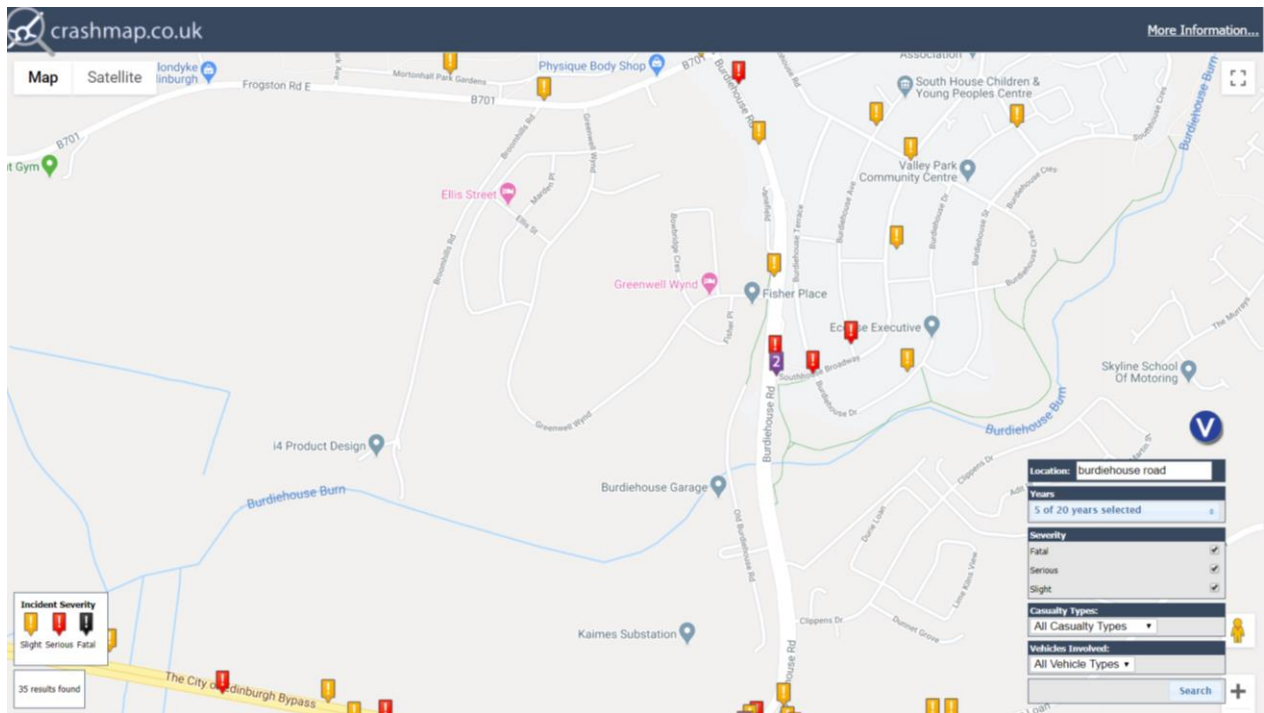
13006 (PL) 002A (From Stage 2 Master Plan)

## Annex 2 PROBLEM LOCATION PLAN

- Specific problem areas have been identified and referenced by the comment number in the text
- General issues covering multiple areas have not been highlighted on this plan so as to avoid clutter and potential misinterpretation.



### Annex 3 ACCIDENT RECORD





**STEWART PATON ASSOCIATES**

Consulting Engineers and Forensic Investigation Specialists

**ROAD LAYOUT  
HOUSING DEVELOPMENT  
FROGSTON ROAD (POD H)  
EDINBURGH**

STAGE 3 ROAD SAFETY AUDIT  
(SPA Ref No: 4282)

Roads Authority: The City of Edinburgh Council

Client: Barratt Homes



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## **DOCUMENT CONTROL**

### **General**

Project	Road Layout, Frogston Road, Pod H.
Client	Barratt Homes
Document Type	Stage 3 Road Safety Audit
SPA Ref No	4282

### **Report Revisions**

	<b>Originator</b>	<b>Date</b>	<b>Reviewer</b>	<b>Date</b>	<b>Status</b>
Draft –Rev 0		07/09/22	N/A	N/A	For Review
Draft –Rev 1	N/A	N/A		07/09/22	Convert to Final
Final – Rev 0		07/09/22	N/A	N/A	Issue to Client

## 1.0 INTRODUCTION

- 1.1 The report has been prepared for the City of Edinburgh Council as a Stage 3 Road Safety Audit of the road layout of a section of the housing development at Frogston Road / Burdiehouse Road, Edinburgh. The audit was on behalf of Barratt Homes. The Road Safety Audit was carried out during September 2022.
- 1.2 The Road Safety Audit Team membership was as follows:
- ██████████, BSc, MSc IEng FIHE, MCIHT, FSoRSA  
Managing Director of Stewart Paton Associates Ltd., Consulting Engineers and Forensic Investigation Specialists  
(Certificate of Competency in Road Safety Audit gained in August 2017)
- ██████████ MCIHT, MSoRSA  
Director of Stewart Paton Associates Ltd., Consulting Engineers and Forensic Investigation Specialists  
(Certificate of Competency in Road Safety Audit gained in February 2013)
- 1.3 The Road Safety Audit took place at the Edinburgh office of Stewart Paton Associates on 6 September 2022. The Road Safety Audit was undertaken in accordance with the Road Safety Audit Brief / Instruction provided by Barratt Homes. The Road Safety Audit comprised an examination of the documents provided, and these are listed in Annex 1. The Audit Team visited the site of the housing development on 6 September 2022 (daytime & night-time). ██████████ from Barratt Homes was present at the daytime inspection. During the daytime visit the weather was overcast and showery and road the surface was wet.
- 1.4. The terms of reference of the Road Safety Audit are as described in GG 119. The Road Safety 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.
- 1.5 All comments and recommendations are referenced to the detailed design drawings and the locations have been indicated on plan included in the Annex 2. Where appropriate, photographs have been included within the body of the report to illustrate issues identified.
- 1.6 This audit is focussed on the road layout & footway connections to the housing development known as Pod H
- 1.8 The development includes the roads named, Arkaig Gardens, MacMath Gait and Tor Lane
- 1.9 In line with GG 119 it should be noted that once the Audit Report has been finalised this ends the involvement of the Audit Team in this stage of the project, unless there are substantial changes that result in the Roads Authority/Project Sponsor requesting another Road Safety Audit of the proposals. On receipt of the final report the Design Team is required to provide the Roads Authority/Project Sponsor with a Road Safety Audit

Response Report. This report along with any related Exception Reports should be passed onto the Audit Team for information.

**Note 1:**

The Audit Team notes in relation to the DMRB standard, GG 119: Road Safety Audits, that the following be included in the Audit Team Statement of Road Safety Audit Reports: -

***We certify that this Road Safety Audit has been carried out in accordance with GG 119***

It is this practice's interpretation that once an Audit Team has been approved this statement within a report is solely related to the processes as detailed in GG 119 associated with reviewing the scheme in terms of the documentation provided in the Audit Brief, undertaking site inspections and producing draft and final Road Safety Audit Reports.

The Audit Team is not responsible or the actions of other stakeholders in relation to other management and approval processes contained within the overall audit process.

The Audit Team does however reserve the right, within the introduction of its reports, to highlight and/or explain any areas where the overall audit process has not followed that laid down in the standard.

**Note 2:**

Any reference to a Chapter is a reference to a Chapter of the Traffic Signs Manual, reference to the Regulations is a reference to the Traffic Signs Regulations and General Directions 2016 and any reference to a Diagram (Diag) is a reference to a sign Diagram number in those Regulations. References to standards are those found in the Design Manual for Roads and Bridges.

## 2.0 ACCIDENT RECORD

- 2.1 In the absence of any specific accident records being provided the Road Safety Audit Team have examined the website [www.crashmap.co.uk](http://www.crashmap.co.uk) for injury accidents recorded at the site.
- 2.2 A map based plan of the accidents have been provided in Annex 3
- 2.3 It is noted that for the five-year period from 2017 -2021 there were no accidents directly related to the area of the new development.

## 3.0 ITEMS ARISING FROM THE STAGE 2 AUDIT

- 3.1 The Audit Team note that a Stage 2 Road Safety Audit was undertaken for the whole site in November 2014
- 3.2 Item B.1.4.1 related to the potential for landscaping to obscure visibility. This item is not an issue within the area inspected as part of this audit.
- 3.3 Item B.1.7.1 related to swept paths for larger vehicles. This item is not an issue within the area inspected as part of this audit.
- 3.4 Item B.1.7.2 related to the need for accessible dropped kerbs at locations such as crossing points but also as driveways that act as the main pedestrian route to housing. On site it was noted that multiple kerbs were higher than 25mm at driveways. Dropped kerbs crossing points were lower but not all appeared to be at the 6mm accessible level.
- 3.5 Item B.3.3.1 to B.3.3.3 related to the main junctions to the site and as such are not an issue within the area inspected as part of this audit.
- 3.6 Item B.3.3.4 related to the potential need for give way markings at the side road junctions with the spine road. At present the Audit Team do not believe these are required.
- 3.7 Item B.5.1.1 related to the positioning of lighting columns in shared space areas. This matter appears to have been dealt with in an appropriate manner for the areas inspected.

## 4.0 ITEMS ARISING FROM THIS STAGE 3 AUDIT

### 4.1 GENERAL

#### 4.1.1

The Audit Team have no comments to raise under this section at this time.

### 4.2 LOCAL ALIGNMENT

#### 4.2.1

The Audit Team have no comments to raise under this section at this time.

### 4.3 JUNCTIONS

#### 4.3.1

The Audit Team have no comments to raise under this section at this time.

### 4.4 NON MOTORISED USERS (NMU)

#### 4.4.1

Location: Footpath at east end of Pod I (Arkaig Gardens and Macmath Gait)

Drawing(s): E9876~0925

Summary: Accessible dropped kerbs at a height of 0-6mm help reduce tripping type accidents and improve accessibility.

#### RECOMMENDATION

It is recommended that the kerb heights on this footpath be reviewed with a view to providing them at an accessible height.



## **4.5 ROAD SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING**

### **4.5.1 PROBLEM**

The Audit Team have no comments to raise under this section at this time.

## 5. AUDIT TEAM STATEMENT

We certify that this audit has been carried out generally in accordance with GG 119

### AUDIT TEAM LEADER

Name: [REDACTED]  
BSc, MSc IEng FIHE, MCIHT, FSoRSA  
Position: Managing Director

Signed: [REDACTED]  
Dated: 7 September 2022

Organisation: Stewart Paton Associates Ltd  
Consulting Civil Engineers

Address: 69 Barnton Park Avenue  
Edinburgh  
EH4 6HD

### AUDIT TEAM MEMBER

Name: [REDACTED]  
MCIHT, MSoRSA  
Position: Director

Signed: [REDACTED]  
Dated: 7 September 2022

Organisation: Stewart Paton Associates Ltd  
Consulting Civil Engineers

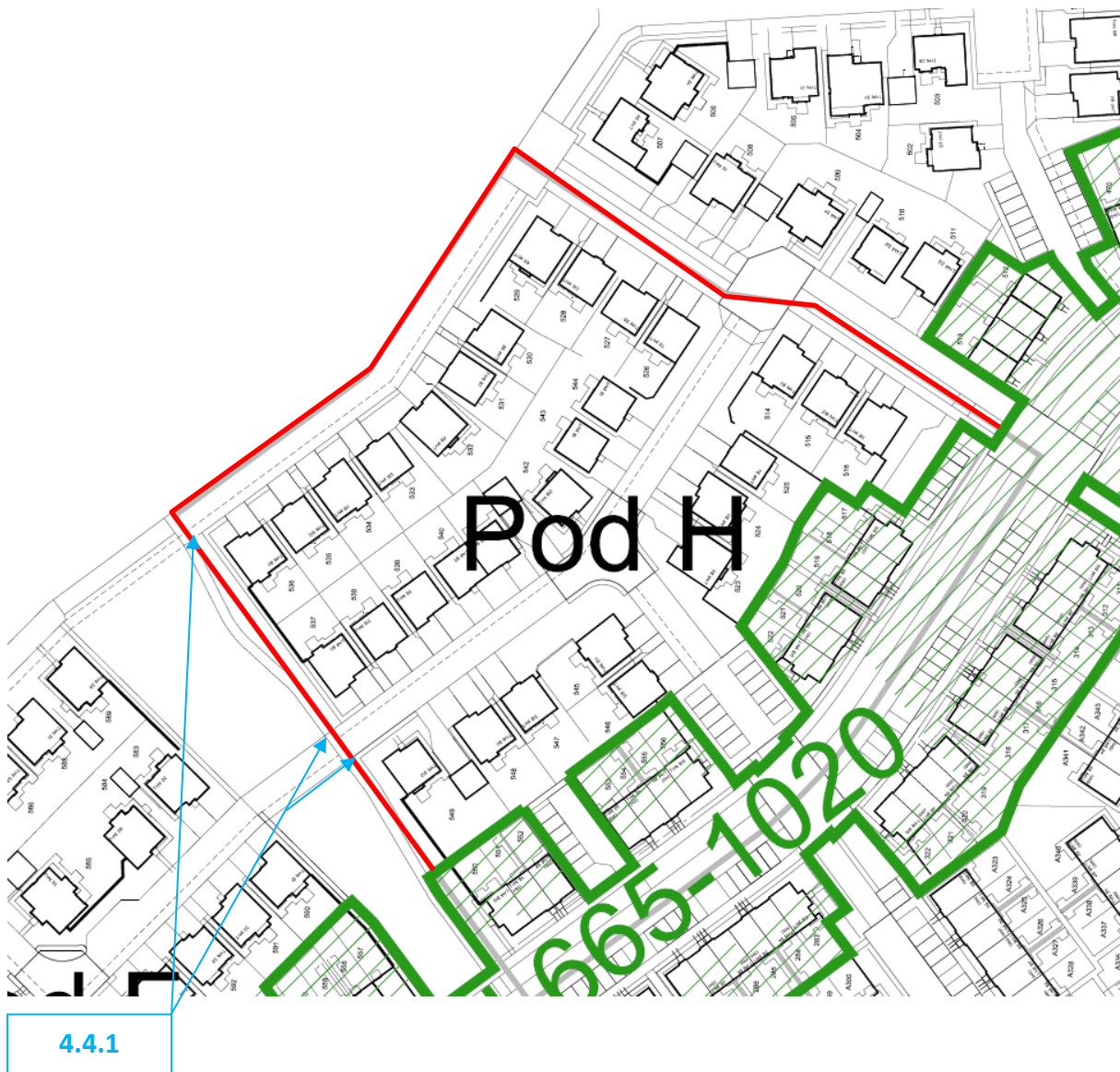
Address: 69 Barnton Park Avenue  
Edinburgh  
EH4 6HD

Annex 1 LIST OF PLANS AND DOCUMENTS

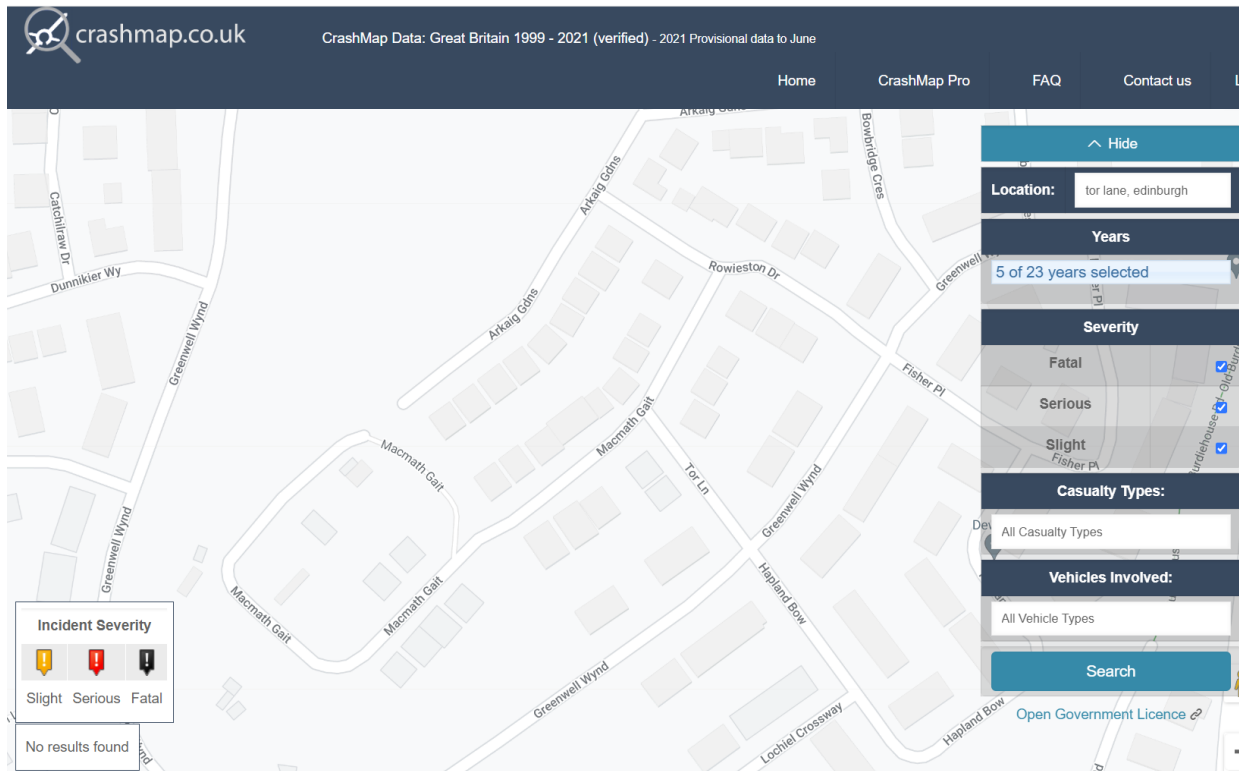
E9876~0925 [Phasing Plan RCC]

## Annex 2 PROBLEM LOCATION PLAN

- Specific problem areas have been identified and referenced by the comment number in the text
- General issues covering multiple areas have not been highlighted on this plan so as to avoid clutter and potential misinterpretation.



### Annex 3 ACCIDENT RECORD



The screenshot displays the CrashMap.co.uk interface. At the top, the website logo and navigation links (Home, CrashMap Pro, FAQ, Contact us) are visible. The main area shows a map of a residential street network in Edinburgh, with labels for roads such as Greenwell Wynd, Macmath Gait, and Fisher Pl. A search bar on the right contains the text 'tor lane, edinburgh'. Below the search bar, several filter panels are open: 'Years' (5 of 23 years selected), 'Severity' (Fatal, Serious, Slight), 'Casualty Types' (All Casualty Types), and 'Vehicles Involved' (All Vehicle Types). A 'Search' button is located at the bottom of the filter panels. In the bottom left corner of the map area, a legend for 'Incident Severity' shows icons for Slight (yellow), Serious (red), and Fatal (black). A message box at the bottom of the map area states 'No results found'.



**STEWART PATON ASSOCIATES**

Consulting Engineers and Forensic Investigation Specialists

**ROAD LAYOUT  
HOUSING DEVELOPMENT  
FROGSTON ROAD (POD I)  
EDINBURGH**

STAGE 3 ROAD SAFETY AUDIT  
(SPA Ref No: 4282)

Roads Authority: The City of Edinburgh Council

Client: Barratt Homes



Report prepared by:

**Stewart Paton Associates Limited**

69 Barnton Park Avenue, Edinburgh, EH4 6HD

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**DOCUMENT CONTROL**

**General**

Project	Road Layout, Frogston Road, Pod I.
Client	Barratt Homes
Document Type	Stage 3 Road Safety Audit
SPA Ref No	4282

**Report Revisions**

	Originator	Date	Reviewer	Date	Status
Draft –Rev 0		22/07/20	N/A	N/A	For Review
Draft –Rev 1	N/A	N/A		23/07/20	Convert to Final
Final – Rev 0		27/07/20	N/A	N/A	Issue to Client

## 1.0 INTRODUCTION

- 1.1 The report has been prepared for the City of Edinburgh Council as a Stage 3 Road Safety Audit of the road layout of a section of the housing development at Frogston Road / Burdiehouse Road, Edinburgh. The audit was on behalf of Barratt Homes. The Road Safety Audit was carried out during January and February 2020.
- 1.2 The Road Safety Audit Team membership was as follows:
- ██████████, BSc, MSc IEng FIHE, MCIHT, FSoRSA  
Managing Director of Stewart Paton Associates Ltd., Consulting Engineers and Forensic Investigation Specialists  
(Certificate of Competency in Road Safety Audit gained in August 2017)
- ██████████ MCIHT, MSoRSA  
Director of Stewart Paton Associates Ltd., Consulting Engineers and Forensic Investigation Specialists  
(Certificate of Competency in Road Safety Audit gained in February 2013)
- 1.3 The Road Safety Audit took place at the Edinburgh office of Stewart Paton Associates on 22 July February 2020. The Road Safety Audit was undertaken in accordance with the Road Safety Audit Brief / Instruction provided by Barratt Homes. The Road Safety Audit comprised an examination of the documents provided, and these are listed in Annex 1. The Audit Team visited the site of the housing development on both 22 July (daytime) and 15 July (night-time) 2020. During the daytime visit the weather was overcast and road the surface was wet from passing showers. At the night-time site visit the weather was fair and the road surface dry. Traffic conditions were light on both occasions.
- 1.4. The terms of reference of the Road Safety Audit are as described in GG 119. The Road Safety 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.
- 1.5 All comments and recommendations are referenced to the detailed design drawings and the locations have been indicated on plan included in the Annex 2. Where appropriate, photographs have been included within the body of the report to illustrate issues identified.
- 1.6 This audit is focussed on the road layout & footway connections to the housing development known as Pod I.
- 1.8 The development includes a parking court accessed from Bowbridge Crescent and the associated surrounding footpath network known as Hepburn Crescent. The main routes forming the development are Arkaig Gardens and Rowieston Drive.
- 1.9 In line with GG 119 it should be noted that once the Audit Report has been finalised this ends the involvement of the Audit Team in this stage of the project, unless there are substantial changes that result in the Roads Authority/Project Sponsor requesting

another Road Safety Audit of the proposals. On receipt of the final report the Design Team is required to provide the Roads Authority/Project Sponsor with a Road Safety Audit Response Report. This report along with any related Exception Reports should be passed onto the Audit Team for information.

**Note 1:**

The Audit Team notes in relation to the DMRB standard, GG 119: Road Safety Audits, that the following be included in the Audit Team Statement of Road Safety Audit Reports: -

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## 2.0 ACCIDENT RECORD

- 2.1 In the absence of any specific accident records being provided the Road Safety Audit Team have examined the website [www.crashmap.co.uk](http://www.crashmap.co.uk) for injury accidents recorded at the site.
- 2.2 A map based plan of the accidents have been provided in Annex 3
- 2.3 It is noted that for the five-year period from 2015 -2019 there were no accidents directly related to the area of the new development.

## 3.0 ITEMS ARISING FROM THE STAGE 2 AUDIT

- 3.1 The Audit Team note that a Stage 2 Road Safety Audit was undertaken for the whole site in November 2014
- 3.2 Item B.1.4.1 related to the potential for landscaping to obscure visibility. This item is not an issue within the area inspected as part of this audit.
- 3.3 Item B.1.7.1 related to swept paths for larger vehicles. This item is not an issue within the area inspected as part of this audit.
- 3.4 Item B.1.7.2 related to the need for accessible dropped kerbs at locations such as crossing points but also as driveways that act as the main pedestrian route to housing. On site it was noted that multiple kerbs were higher than 25mm at driveways. Dropped kerbs crossing points were lower but not all appeared to be at the 6mm accessible level.
- 3.5 Item B.3.3.1 to B.3.3.3 related to the main junctions to the site and as such are not an issue within the area inspected as part of this audit.
- 3.6 Item B.3.3.4 related to the potential need for give way markings at the side road junctions with the spine road. At present the Audit Team do not believe these are required.
- 3.7 Item B.5.1.1 related to the positioning of lighting columns in shared space areas. This matter appears to have been dealt with in an appropriate manner for the areas inspected.

## 4.0 ITEMS ARISING FROM THIS STAGE 3 AUDIT

### 4.1 GENERAL

#### 4.1.1

The Audit Team have no comments to raise under this section at this time.

### 4.2 LOCAL ALIGNMENT

#### 4.2.1

The Audit Team have no comments to raise under this section at this time.

### 4.3 JUNCTIONS

#### 4.3.1

The Audit Team have no comments to raise under this section at this time.

### 4.4 NON MOTORISED USERS (NMU)

#### 4.4.1 PROBLEM

Location: West end of Arkaig Gardens

Drawing(s): E9876/1535 - A

Summary: Inaccessible footways can be hazardous for the less mobile, those in wheelchairs or those pushing buggies and increase the potential for tripping accidents.

At the west end of Arkaig Gardens the footpath running north to south from plots 490 to 496 meets the carriageway. There is no dropped kerb at this point or at the footway opposite that runs past plots 506 & 507. As such pedestrians seeking to use this pedestrian route will have to negotiate two full height kerbs.



### RECOMMENDATION

It is recommended that dropped kerbs be provided in a similar manner as to adjacent sections of footways.

#### 4.4.2 PROBLEM

Location: Parking Court

Drawing(s): E9876/1535 - A

Summary: Inaccessible footways can be hazardous for the less mobile, those in wheelchairs or those pushing buggies and increase the potential for tripping accidents.

At the south-east run of parking at the parking court there is a footway running south to north. At the north end there is no accessible dropped kerb to assist with access. As such pedestrians seeking to use this pedestrian route will have to negotiate a full height kerb. If people were heading to this run of parking from Hepburn Gardens then they would have to negotiate two full height kerb



#### RECOMMENDATION

It is recommended that dropped kerbs be provided in a similar manner as to adjacent sections of footways.

#### 4.5 ROAD SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING

##### 4.5.1

The Audit Team have no specific comments to raise under this section at this time.

## 5. AUDIT TEAM STATEMENT

We certify that this audit has been carried out generally in accordance with GG 119

### AUDIT TEAM LEADER

Name: [REDACTED]  
BSc, MSc IEng FIHE, MCIHT, FSoRSA  
Position: Managing Director

Signed: [REDACTED]  
Dated: 27 July 2020

Organisation: Stewart Paton Associates Ltd  
Consulting Civil Engineers

Address: 69 Barnton Park Avenue  
Edinburgh  
EH4 6HD

### AUDIT TEAM MEMBER

Name: [REDACTED]  
MCIHT, MSoRSA  
Position: Director

Signed: [REDACTED]  
Dated: 27 July 2020

Organisation: Stewart Paton Associates Ltd  
Consulting Civil Engineers

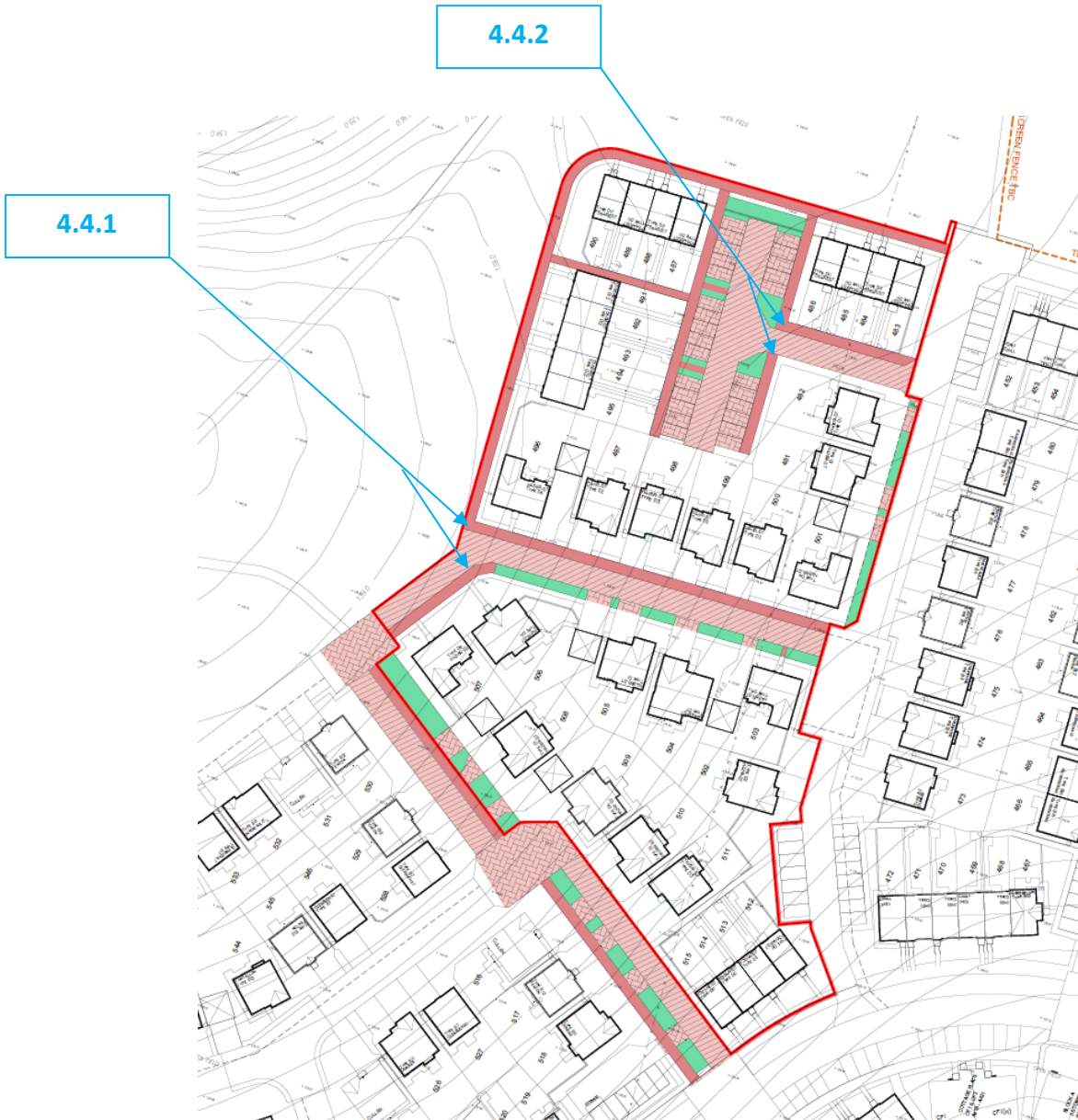
Address: 69 Barnton Park Avenue  
Edinburgh  
EH4 6HD

Annex 1 LIST OF PLANS AND DOCUMENTS

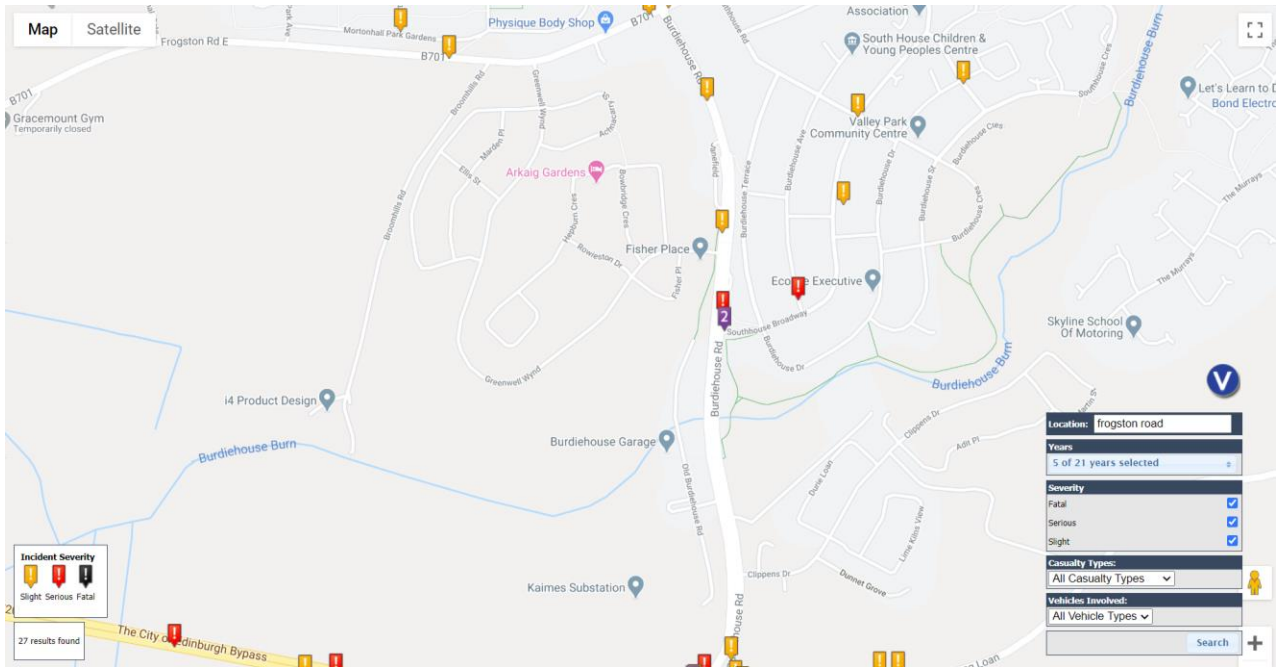
E9876/1535 - A - Adoption Plans Pod I

## Annex 2 PROBLEM LOCATION PLAN

- Specific problem areas have been identified and referenced by the comment number in the text
- General issues covering multiple areas have not been highlighted on this plan so as to avoid clutter and potential misinterpretation.



Annex 3 ACCIDENT RECORD





**STEWART PATON ASSOCIATES**

Consulting Engineers and Forensic Investigation Specialists

**ROAD LAYOUT  
HOUSING DEVELOPMENT  
FROGSTON ROAD (POD J)  
EDINBURGH**

STAGE 3 ROAD SAFETY AUDIT  
(SPA Ref No: 4282)

Roads Authority: The City of Edinburgh Council

Client: Barratt Homes



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## **DOCUMENT CONTROL**

### **General**

Project	Road Layout, Frogston Road, Pod J
Client	Barratt Homes
Document Type	Stage 3 Road Safety Audit
SPA Ref No	4282

### **Report Revisions**

	<b>Originator</b>	<b>Date</b>	<b>Reviewer</b>	<b>Date</b>	<b>Status</b>
Draft –Rev 0		20/01/24	N/A	N/A	For Review
Draft –Rev 1	N/A	N/A		20/09/24	Convert to Final
Final – Rev 0		22/09/24	N/A	N/A	Issue to Client
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## 1.0 INTRODUCTION

- 1.1 The report has been prepared for the City of Edinburgh Council as a Stage 3 Road Safety Audit of the road layout of a section of the housing development at Frogston Road / Burdiehouse Road, Edinburgh. The audit was on behalf of Barratt Homes. The Road Safety Audit was carried out during September 2024
- 1.2 The Road Safety Audit Team membership was as follows:
- ██████████, BSc, MSc IEng FIHE, MCIHT, FSoRSA  
Managing Director of Stewart Paton Associates Ltd., Consulting Engineers and Forensic Investigation Specialists  
(Certificate of Competency in Road Safety Audit gained in August 2017)
- ██████████, HNC, MIHE  
Consultant to Stewart Paton Associates Ltd., Consulting Engineers and Forensic Investigation Specialists
- 1.3 The Road Safety Audit took place at the Edinburgh office of Stewart Paton Associates on 20 September 2024. The Road Safety Audit was undertaken in accordance with the Road Safety Audit Brief / Instruction provided by Barratt Homes. The Road Safety Audit comprised an examination of the documents provided, and these are listed in Annex 1. The Audit Team visited the site of the housing development on 18 & 19 September 2024 respectively for a daytime & night-time inspection. During the daytime visit the weather was fair, the road surface was dry and traffic volumes and parking levels were moderate to high given that the primary school was ending for the day. However, in the evening the traffic volumes were light and on-street parking was seen as being 'normal'.
- 1.4. The terms of reference of the Road Safety Audit are as described in GG 119. The Road Safety 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.
- 1.5 All comments and recommendations are referenced to the detailed design drawings and the locations have been indicated on plan included in the Annex 2. Where appropriate, photographs have been included within the body of the report to illustrate issues identified.
- 1.6 This audit is focussed on the road layout & footway connections to the housing development known as Pod J that includes the 'loop road' of Achnacarry Street, to the east of Greenwell Wynd that contains residential properties and the Frogston Primary School.
- 1.7 In line with GG 119 it should be noted that once the Audit Report has been finalised this ends the involvement of the Audit Team in this stage of the project, unless there are substantial changes that result in the Roads Authority/Project Sponsor requesting another Road Safety Audit of the proposals. On receipt of the final report the Design Team is required to provide the Roads Authority/Project Sponsor with a Road Safety Audit

Response Report. This report along with any related Exception Reports should be passed onto the Audit Team for information.

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***We certify that this Road Safety Audit has been carried out in accordance with GG 119***

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The Audit Team does however reserve the right, within the introduction of its reports, to highlight and/or explain any areas where the overall audit process has not followed that laid down in the standard.

**Note 2:**

Any reference to a Chapter is a reference to a Chapter of the Traffic Signs Manual, reference to the Regulations is a reference to the Traffic Signs Regulations and General Directions 2016 and any reference to a Diagram (Diag) is a reference to a sign Diagram number in those Regulations. References to standards are those found in the Design Manual for Roads and Bridges.

## 2.0 ACCIDENT RECORD

- 2.1 In the absence of any specific accident records being provided the Road Safety Audit Team have examined the website [www.crashmap.co.uk](http://www.crashmap.co.uk) for injury accidents recorded at the site.
- 2.2 A map based plan of the accidents have been provided in Annex 3
- 2.3 It is noted that for the five-year period from 2018 -2022 there were no accidents directly related to the area of the new development.

## 3.0 ITEMS ARISING FROM THE STAGE 2 AUDIT

- 3.1 The Audit Team note that a Stage 2 Road Safety Audit was undertaken for the whole site in November 2014
- 3.2 Item B.1.4.1 related to the potential for landscaping to obscure visibility. This item is not an issue within the area inspected as part of this audit.
- 3.3 Item B.1.7.1 related to swept paths for larger vehicles. This item is not an issue within the area inspected as part of this audit.
- 3.4 Item B.1.7.2 related to the need for accessible dropped kerbs at locations such as crossing points but also as driveways that act as the main pedestrian route to housing. On site it was noted that multiple kerbs were higher than 25mm at driveways. Dropped kerbs crossing points were lower but not all appeared to be at the 6mm accessible level.
- 3.5 Item B.3.3.1 to B.3.3.3 related to the main junctions to the site and as such are not an issue within the area inspected as part of this audit.
- 3.6 Item B.3.3.4 related to the potential need for give way markings at the side road junctions with the spine road. At present the Audit Team do not believe these are required.
- 3.7 Item B.5.1.1 related to the positioning of lighting columns in shared space areas. This matter appears to have been dealt with in an appropriate manner for the areas inspected.

## 4.0 ITEMS ARISING FROM THIS STAGE 3 AUDIT

### 4.1 GENERAL

#### 4.1.1 PROBLEM

The Audit Team have no comments to raise under this section at this time.

### 4.2 LOCAL ALIGNMENT

#### 4.2.1

The Audit Team have no comments to raise under this section at this time.

### 4.3 JUNCTIONS

#### 4.3.1

The Audit Team have no comments to raise under this section at this time.

### 4.4 NON MOTORISED USERS (NMU)

4.4.1 The Audit Team have no comments to raise under this section at this time.

### 4.5 ROAD SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING

#### 4.5.1

Location: Frogston Primary School, entry to car park

Drawing(s): N/A

Summary: Non-functioning lamps on lighting columns can result in dark area on carriageway and footways that can increase the potential for vehicles striking, and pedestrians tripping on, objects or defects.

At the night-time inspection it was noted that the lighting column at the entry to the Primary School car park was 'dark'.



## RECOMMENDATION

It is understood from the latest lighting plans that this lighting column is not part of the Barratts development and purely related to the Primary School. As such it is recommended that this lighting column be made operational by the Council as soon as possible.

## 5.0 AUDIT TEAM STATEMENT

We certify that this audit has been carried out generally in accordance with GG 119

### AUDIT TEAM LEADER

Name: [REDACTED]  
BSc, MSc IEng FIHE, MCIHT, FSoRSA  
Position: Managing Director

Signed: [REDACTED]

Dated: 22 September 2024

Organisation: Stewart Paton Associates Ltd  
Consulting Civil Engineers

Address: 69 Barnton Park Avenue  
Edinburgh  
EH4 6HD

### AUDIT TEAM MEMBER

Name: [REDACTED]  
HNC, MIHE  
Position: Consultant

Signed: [REDACTED]

Dated: 22 September 2024

Organisation: Stewart Paton Associates Ltd  
Consulting Civil Engineers

Address: 69 Barnton Park Avenue  
Edinburgh  
EH4 6HD

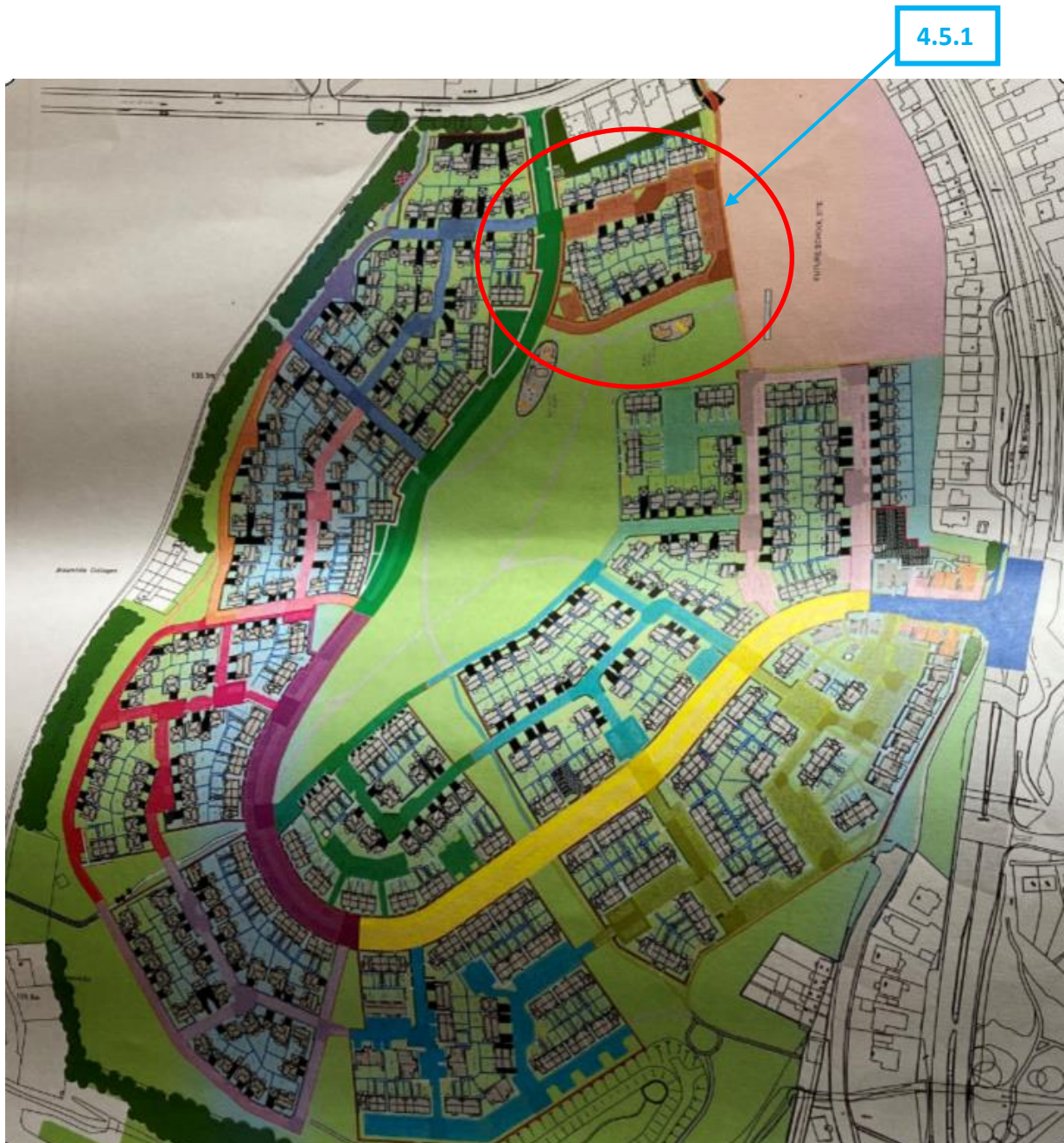
Annex 1 LIST OF PLANS AND DOCUMENTS

E9876~0925 [Phasing Plan RCC]

## Annex 2 PROBLEM LOCATION PLAN

- Specific problem areas have been identified and referenced by the comment number in the text
- General issues covering multiple areas have not been highlighted on this plan so as to avoid clutter and potential misinterpretation.

(Pod J is the light brown section of road seen below. highlighted in red circle below)



### Annex 3 ACCIDENT RECORD





**STEWART PATON ASSOCIATES**

Consulting Engineers and Forensic Investigation Specialists

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**ROAD LAYOUT  
HOUSING DEVELOPMENT  
FROGSTON ROAD (POD K, SITE 3),  
EDINBURGH**

STAGE 3 ROAD SAFETY AUDIT  
(SPA Ref No: 4282)

Roads Authority: The City of Edinburgh Council

Client: Barratt Homes



Report prepared by:

**Stewart Paton Associates Limited**

69 Barnton Park Avenue, Edinburgh, EH4 6HD

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**DOCUMENT CONTROL**

**General**

Project	Road Layout, Frogston Road, Pod K, Site 3
Client	Barratt Homes
Document Type	Stage 3 Road Safety Audit
SPA Ref No	4282

**Report Revisions**

	Originator	Date	Reviewer	Date	Status
Draft –Rev 0		06/02/20	N/A	N/A	For Review
Draft –Rev 1	N/A	N/A		07/012/20	Convert to Final
Final – Rev 0		10/02/20	N/A	N/A	Issue to Client

## 1.0 INTRODUCTION

- 1.1 The report has been prepared for the City of Edinburgh Council as a Stage 3 Road Safety Audit of the road layout of a section of the housing development at Frogston Road / Burdiehouse Road, Edinburgh. The audit was on behalf of Barratt Homes. The Road Safety Audit was carried out during January and February 2020.
- 1.2 The Road Safety Audit Team membership was as follows:
- ██████████, BSc, MSc IEng FIHE, MCIHT, FSoRSA  
Managing Director of Stewart Paton Associates Ltd., Consulting Engineers and Forensic Investigation Specialists  
(Certificate of Competency in Road Safety Audit gained in August 2017)
- ██████████ MCIHT, MSoRSA  
Director of Stewart Paton Associates Ltd., Consulting Engineers and Forensic Investigation Specialists  
(Certificate of Competency in Road Safety Audit gained in February 2013)
- 1.3 The Road Safety Audit took place at the Edinburgh office of Stewart Paton Associates on 6 February 2020. The Road Safety Audit was undertaken in accordance with the Road Safety Audit Brief / Instruction provided by Barratt Homes. The Road Safety Audit comprised an examination of the documents provided and these are listed in Annex 1. The Audit Team visited the site of the access junction and housing development on both 30 January (daytime) and 6 February (night-time) 2020. During both the day and night site visits the weather was fair and the road surface dry. Traffic conditions were light on both occasions.
- 1.4 The daytime inspection was also attended by ██████████ of Barratt Homes.
- 1.5. The terms of reference of the Road Safety Audit are as described in GG 119. The Road Safety 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.
- 1.6 All comments and recommendations are referenced to the detailed design drawings and the locations have been indicated on plan included in the Annex 2. Where appropriate, photographs have been included within the body of the report to illustrate issues identified.
- 1.7 This audit is focussed on the road layout & footway connections to the housing development known as Pod K, Site 3 but with a street name of Bowbridge Crescent.
- 1.8 The development is essentially a simple loop road to the north of the development's spine road (Greenwell Wynd).
- 1.9 In line with GG 119 it should be noted that once the Audit Report has been finalised this ends the involvement of the Audit Team in this stage of the project, unless there are

substantial changes that result in the Roads Authority/Project Sponsor requesting another Road Safety Audit of the proposals. On receipt of the final report the Design Team is required to provide the Roads Authority/Project Sponsor with a Road Safety Audit Response Report. This report along with any related Exception Reports should be passed onto the Audit Team for information.

- 1.10 During the site inspections it was noted that there were snagging items that required finishing off as part of the construction works. These included:-

Final surfacing to footway around the back of car parking bay south and west section of Bowbridge Crescent.

Some mono-blocks missing in the corner of the same car parking bay south and west section of Bowbridge Crescent.

Dark lamp at the same car parking bay south and west section of Bowbridge Crescent.

**Note 1:**

The Audit Team notes in relation to the DMRB standard, GG 119: Road Safety Audits, that the following be included in the Audit Team Statement of Road Safety Audit Reports: -

***We certify that this Road Safety Audit has been carried out in accordance with GG 119***

It is this practice's interpretation that once an Audit Team has been approved this statement within a report is solely related to the processes as detailed in GG 119 associated with reviewing the scheme in terms of the documentation provided in the Audit Brief, undertaking site inspections and producing draft and final Road Safety Audit Reports.

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The Audit Team does however reserve the right, within the introduction of its reports, to highlight and/or explain any areas where the overall audit process has not followed that laid down in the standard.

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Any reference to a Chapter is a reference to a Chapter of the Traffic Signs Manual, reference to the Regulations is a reference to the Traffic Signs Regulations and General Directions 2016 and any reference to a Diagram (Diag) is a reference to a sign Diagram number in those Regulations. References to standards are those found in the Design Manual for Roads and Bridges.

## 2.0 ACCIDENT RECORD

- 2.1 In the absence of any specific accident records being provided the Road Safety Audit Team have examined the website [www.crashmap.co.uk](http://www.crashmap.co.uk) for injury accidents recorded at the site.
- 2.2 A map based plan of the accidents have been provided in Annex 3
- 2.3 It is noted that for the five-year period from 2014 -2018 there were no accidents directly related to the area of the new development.

## 3.0 ITEMS ARISING FROM THE STAGE 2 AUDIT

- 3.1 The Audit Team note that a Stage 2 Road Safety Audit was undertaken for the whole site in November 2014
- 3.2 Item B.1.4.1 related to the potential for landscaping to obscure visibility. This item is not an issue within the area inspected as part of this audit.
- 3.3 Item B.1.7.1 related to swept paths for larger vehicles. This item is not an issue within the area inspected as part of this audit.
- 3.4 Item B.1.7.2 related to the need for accessible dropped kerbs at locations such as crossing points but also as driveways that act as the main pedestrian route to housing. On site it was noted that multiple kerbs were higher than 25mm at driveways. Dropped kerbs crossing points were lower but not all appeared to be at the 6mm accessible level.
- 3.5 Item B.3.3.1 to B.3.3.3 related to the main junctions to the site and as such are not an issue within the area inspected as part of this audit.
- 3.6 Item B.3.3.4 related to the potential need for give way markings at the side road junctions with the spine road. At present the Audit Team do not believe these are required.
- 3.7 Item B.5.1.1 related to the positioning of lighting columns in shared space areas. This matter appears to have been deal with in an appropriate manner for the areas inspected.

## 4.0 ITEMS ARISING FROM THIS STAGE 3 AUDIT

### 4.1 GENERAL

#### 4.1.1

The Audit Team have no comments to raise under this section at this time.

### 4.2 LOCAL ALIGNMENT

#### 4.2.1

The Audit Team have no comments to raise under this section at this time.

### **4.3 JUNCTIONS**

#### **4.3.1**

The Audit Team have no comments to raise under this section at this time.

### **4.4 NON MOTORISED USERS (NMU)**

#### **4.4.1 PROBLEM**

The Audit Team have no comments to raise under this section at this time.

### **4.5 ROAD SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING**

#### **4.5.1**

The Audit Team have no specific comments to raise under this section at this time.

## 5. AUDIT TEAM STATEMENT

We certify that this audit has been carried out generally in accordance with GG 119

### AUDIT TEAM LEADER

Name: [REDACTED]  
BSc, MSc IEng FIHE, MCIHT, FSoRSA  
Position: Managing Director

Signe

Dated: 10 February 2020

Organisation: Stewart Paton Associates Ltd  
Consulting Civil Engineers

Address: 69 Barnton Park Avenue  
Edinburgh  
EH4 6HD

### AUDIT TEAM MEMBER

Name: [REDACTED]  
MCIHT, MSoRSA  
Position: Director

Signed:

Dated: 10 February 2020

Organisation: Stewart Paton Associates Ltd  
Consulting Civil Engineers

Address: 69 Barnton Park Avenue  
Edinburgh  
EH4 6HD

Annex 1 LIST OF PLANS AND DOCUMENTS

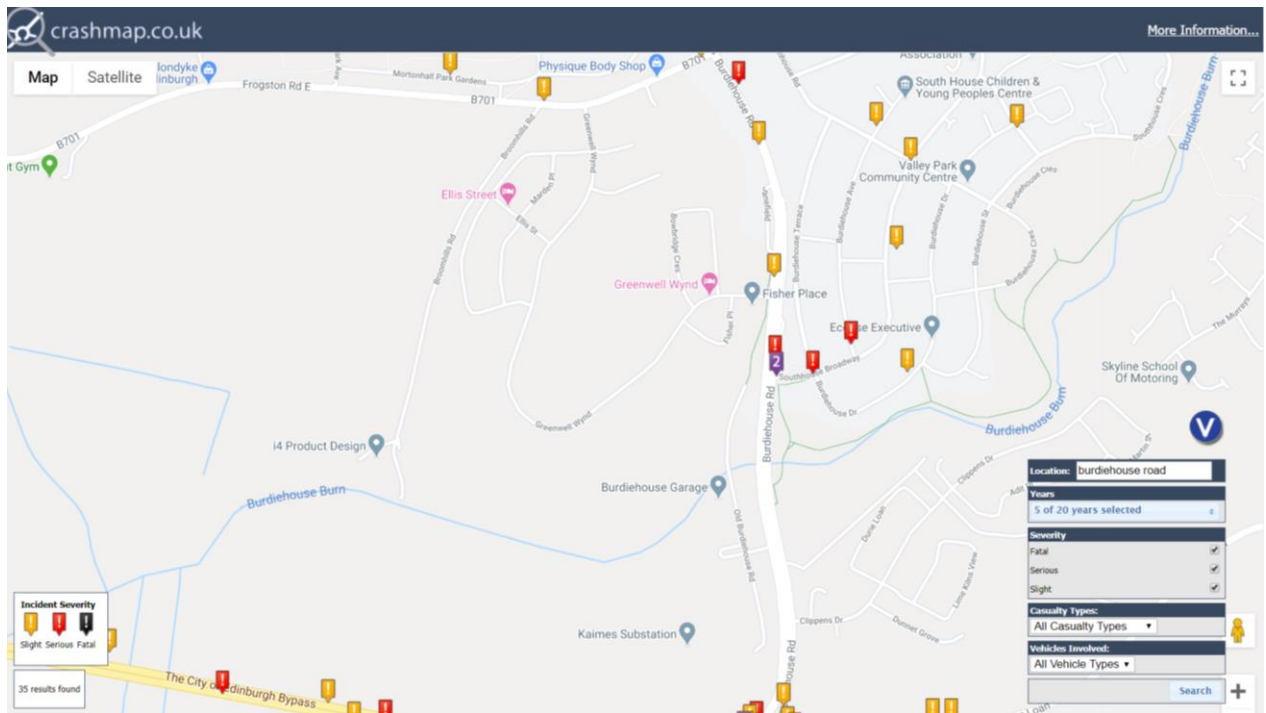
13006 (PL) 002A (From Stage 2 Master Plan)

## Annex 2 PROBLEM LOCATION PLAN

- Specific problem areas have been identified and referenced by the comment number in the text
- General issues covering multiple areas have not been highlighted on this plan so as to avoid clutter and potential misinterpretation.



### Annex 3 ACCIDENT RECORD





**STEWART PATON ASSOCIATES**  
Consulting Engineers and Forensic Investigation Specialists

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**ROAD LAYOUT  
HOUSING DEVELOPMENT  
FROGSTON ROAD (SPINE ROAD 1)  
EDINBURGH**

STAGE 3 ROAD SAFETY AUDIT  
(SPA Ref No: 4282)

Roads Authority: The City of Edinburgh Council

Client: Barratt Homes



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**DOCUMENT CONTROL**

**General**

Project	Road Layout, Frogston Road, Spine Road 1
Client	Barratt Homes
Document Type	Stage 3 Road Safety Audit
SPA Ref No	4282

**Report Revisions**

	Originator	Date	Reviewer	Date	Status
Draft –Rev 0		07/09/22	N/A	N/A	For Review
Draft –Rev 1	N/A	N/A		07/09/22	Convert to Final
Final – Rev 0		07/09/22	N/A	N/A	Issue to Client

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- 1.1 The report has been prepared for the City of Edinburgh Council as a Stage 3 Road Safety Audit of the road layout of a section of the housing development at Frogston Road / Burdiehouse Road, Edinburgh. The audit was on behalf of Barratt Homes. The Road Safety Audit was carried out during September 2022.
- 1.2 The Road Safety Audit Team membership was as follows:
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- 1.4. The terms of reference of the Road Safety Audit are as described in GG 119. The Road Safety 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.
- 1.5 All comments and recommendations are referenced to the detailed design drawings and the locations have been indicated on plan included in the Annex 2. Where appropriate, photographs have been included within the body of the report to illustrate issues identified.
- 1.6 This audit is focussed on the road layout & footway connections to the housing development known as Spine Road 1
- 1.8 The development includes the roads named, Greenwell Wynd from Frogston Road East to Dunnikier Way.
- 1.9 It was noted that there were still final works to be completed at the Frogston Road East junction, along with some minor snagging regards damaged kerbs and some relaying of blockwork.

1.10 In line with GG 119 it should be noted that once the Audit Report has been finalised this ends the involvement of the Audit Team in this stage of the project, unless there are substantial changes that result in the Roads Authority/Project Sponsor requesting another Road Safety Audit of the proposals. On receipt of the final report the Design Team is required to provide the Roads Authority/Project Sponsor with a Road Safety Audit Response Report. This report along with any related Exception Reports should be passed onto the Audit Team for information.

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- 3.3 Item B.1.7.1 related to swept paths for larger vehicles. This item is not an issue within the area inspected as part of this audit.
- 3.4 Item B.1.7.2 related to the need for accessible dropped kerbs at locations such as crossing points but also as driveways that act as the main pedestrian route to housing. On site it was noted that multiple kerbs were higher than 25mm at driveways. Dropped kerbs crossing points were lower but not all appeared to be at the 6mm accessible level.
- 3.5 Item B.3.3.1 to B.3.3.3 related to the main junctions to the site and as such are not an issue within the area inspected as part of this audit.
- 3.6 Item B.3.3.4 related to the potential need for give way markings at the side road junctions with the spine road. At present the Audit Team do not believe these are required.
- 3.7 Item B.5.1.1 related to the positioning of lighting columns in shared space areas. This matter appears to have been dealt with in an appropriate manner for the areas inspected.

## 4.0 ITEMS ARISING FROM THIS STAGE 3 AUDIT

### 4.1 GENERAL

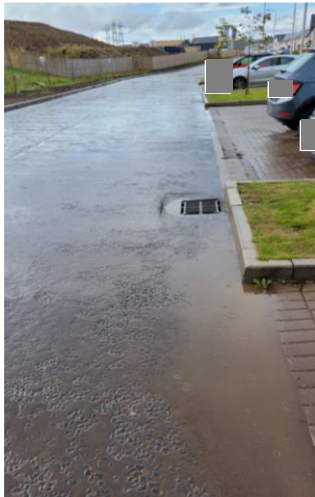
#### 4.1.1

Location: Greenwell Wynd  
Drawing(s): E9876~0925  
Summary: Ponding on the carriageway can introduce skid / slip hazards to users.

On Greenwell Wynd there were two areas where significant ponding was noted. While it accepted this is not a shared space area and thus pedestrians may be affected in a limited

manner, the ponding could be an issue for cyclists in the winter months if ponding freezes over due to low temperatures..

The locations were opposite No 56 (where there is also a gully set low in the carriageway) and at the junction of Ellis Street.



## RECOMMENDATION

It is recommended that the areas where ponding is occurring are rectified to ensure the carriageway drains as intended.

### 4.2 LOCAL ALIGNMENT

#### 4.2.1

The Audit Team have no comments to raise under this section at this time.

### 4.3 JUNCTIONS

#### 4.3.1

The Audit Team have no comments to raise under this section at this time.

### 4.4 NON MOTORISED USERS (NMU)

#### 4.4.1

The Audit Team have no comments to raise under this section at this time.

### 4.5 ROAD SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING

#### 4.5.1 PROBLEM

The Audit Team have no comments to raise under this section at this time.

## 5. AUDIT TEAM STATEMENT

We certify that this audit has been carried out generally in accordance with GG 119

### AUDIT TEAM LEADER

Name: [REDACTED]  
BSc, MSc IEng FIHE, MCIHT, FSoRSA  
Position: Managing Director

Signed: [REDACTED]  
Dated: 7 September 2022

Organisation: Stewart Paton Associates Ltd  
Consulting Civil Engineers

Address: 69 Barnton Park Avenue  
Edinburgh  
EH4 6HD

### AUDIT TEAM MEMBER

Name: [REDACTED]  
MCIHT, MSoRSA  
Position: Director

Signed: [REDACTED]  
Dated: 7 September 2022

Organisation: Stewart Paton Associates Ltd  
Consulting Civil Engineers

Address: 69 Barnton Park Avenue  
Edinburgh  
EH4 6HD

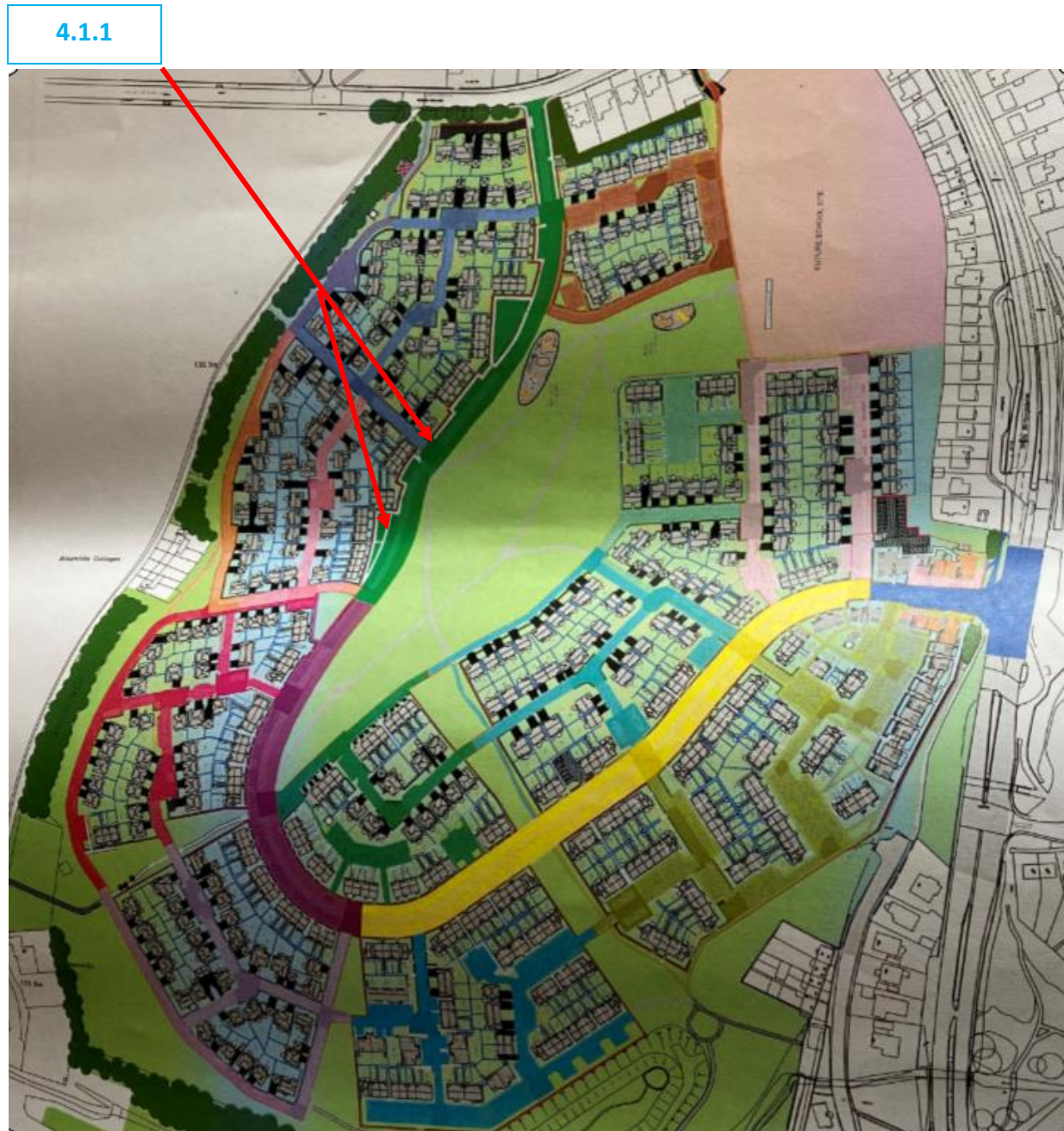
Annex 1 LIST OF PLANS AND DOCUMENTS

E9876~0925 [Phasing Plan RCC]

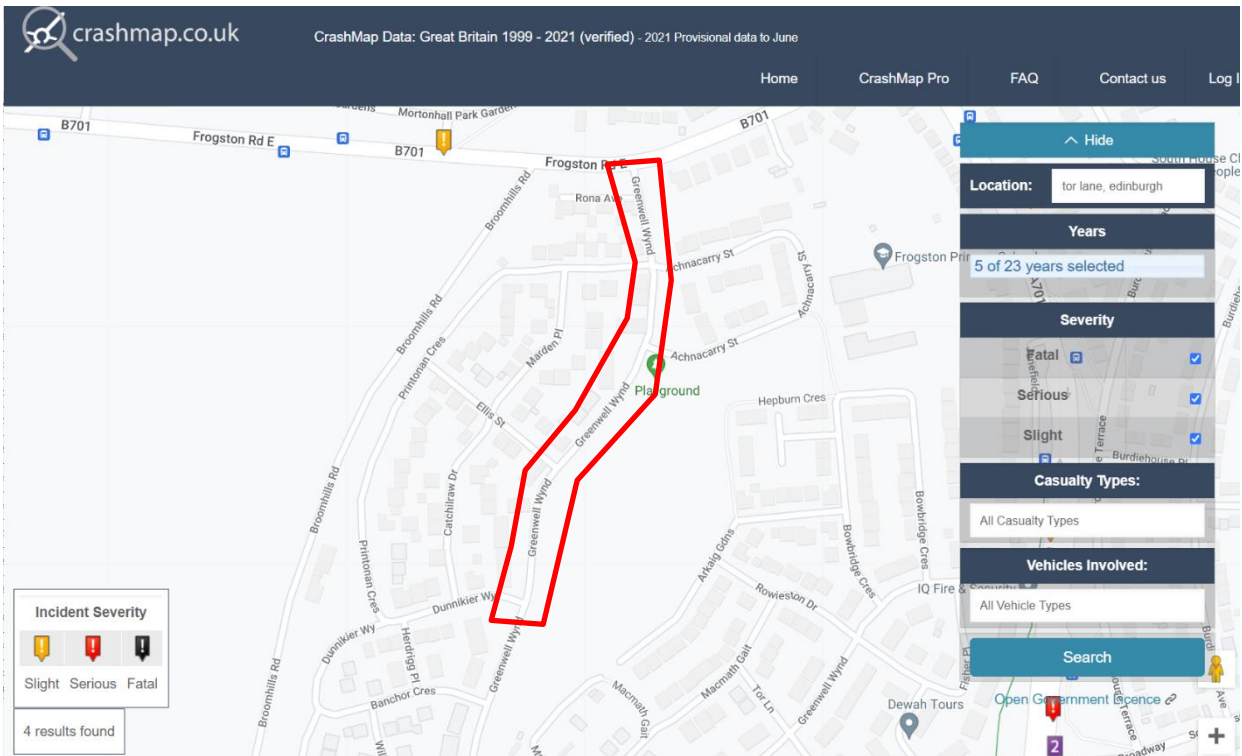
## Annex 2 PROBLEM LOCATION PLAN

- Specific problem areas have been identified and referenced by the comment number in the text
- General issues covering multiple areas have not been highlighted on this plan so as to avoid clutter and potential misinterpretation.

(Spine Road 1 in green below)



### Annex 3 ACCIDENT RECORD





**STEWART PATON ASSOCIATES**

Consulting Engineers and Forensic Investigation Specialists

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**ROAD LAYOUT  
HOUSING DEVELOPMENT  
FROGSTON ROAD (SPINE ROAD 3)  
EDINBURGH**

STAGE 3 ROAD SAFETY AUDIT  
(SPA Ref No: 4282)

Roads Authority: The City of Edinburgh Council

Client: Barratt Homes

Report prepared by:

**Stewart Paton Associates Limited**

69 Barnton Park Avenue, Edinburgh, EH4 6HD

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Annex 2	PROBLEM LOCATION PLAN	
Annex 3	ACCIDENT RECORD	

## **DOCUMENT CONTROL**

### **General**

Project	Road Layout, Frogston Road, Spine Road 3
Client	Barratt Homes
Document Type	Stage 3 Road Safety Audit
SPA Ref No	4282

### **Report Revisions**

	<b>Originator</b>	<b>Date</b>	<b>Reviewer</b>	<b>Date</b>	<b>Status</b>
Draft –Rev 0		17/04/23	N/A	N/A	For Review
Draft –Rev 1	N/A	N/A		18/04/23	Convert to Final
Final – Rev 0		18/04/23	N/A	N/A	Issue to Client

## 1.0 INTRODUCTION

- 1.1 The report has been prepared for the City of Edinburgh Council as a Stage 3 Road Safety Audit of the road layout of a section of the housing development at Frogston Road / Burdiehouse Road, Edinburgh. The audit was on behalf of Barratt Homes. The Road Safety Audit was carried out during April 2023.
- 1.2 The Road Safety Audit Team membership was as follows:
- ██████████, BSc, MSc IEng FIHE, MCIHT, FSoRSA  
Managing Director of Stewart Paton Associates Ltd., Consulting Engineers and Forensic Investigation Specialists  
(Certificate of Competency in Road Safety Audit gained in August 2017)
- ██████████, MCIHT, MSoRSA  
Director of Stewart Paton Associates Ltd., Consulting Engineers and Forensic Investigation Specialists  
(Certificate of Competency in Road Safety Audit gained in February 2013)
- 1.3 The Road Safety Audit took place at the Edinburgh office of Stewart Paton Associates on 17 April 2023. The Road Safety Audit was undertaken in accordance with the Road Safety Audit Brief / Instruction provided by Barratt Homes. The Road Safety Audit comprised an examination of the documents provided, and these are listed in Annex 1. The Audit Team visited the site of the housing development on 14 April 2023 & 6 April 2023 respectively for a daytime & night-time inspection. ██████████ from Barratt Homes was present at the daytime inspection. During the daytime visit the weather was fair, the road surface was dry and traffic volumes were light..
- 1.4. The terms of reference of the Road Safety Audit are as described in GG 119. The Road Safety 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.
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- 1.6 This audit is focussed on the road layout & footway connections to the housing development known as Spine Road 3
- 1.8 The development includes the roads named, Greenwell Wynd from Bowbridge Crescent westwards to Dunnikier Way.
- 1.9 It was noted that there were still final works / snagging to be completed at the following areas:-

Bowbridge Crescent (two junctions) – poor block work at incomplete surfacing.



1.10 In line with GG 119 it should be noted that once the Audit Report has been finalised this ends the involvement of the Audit Team in this stage of the project, unless there are substantial changes that result in the Roads Authority/Project Sponsor requesting another Road Safety Audit of the proposals. On receipt of the final report the Design Team is required to provide the Roads Authority/Project Sponsor with a Road Safety Audit Response Report. This report along with any related Exception Reports should be passed onto the Audit Team for information.

**Note 1:**

The Audit Team notes in relation to the DMRB standard, GG 119: Road Safety Audits, that the following be included in the Audit Team Statement of Road Safety Audit Reports: -

***We certify that this Road Safety Audit has been carried out in accordance with GG 119***

It is this practice's interpretation that once an Audit Team has been approved this statement within a report is solely related to the processes as detailed in GG 119 associated with reviewing the scheme in terms of the documentation provided in the Audit Brief, undertaking site inspections and producing draft and final Road Safety Audit Reports.

The Audit Team is not responsible for the actions of other stakeholders in relation to other management and approval processes contained within the overall audit process.

The Audit Team does however reserve the right, within the introduction of its reports, to highlight and/or explain any areas where the overall audit process has not followed that laid down in the standard.

**Note 2:**

Any reference to a Chapter is a reference to a Chapter of the Traffic Signs Manual, reference to the Regulations is a reference to the Traffic Signs Regulations and General Directions 2016 and any reference to a Diagram (Diag) is a reference to a sign Diagram number in those Regulations. References to standards are those found in the Design Manual for Roads and Bridges.

## 2.0 ACCIDENT RECORD

- 2.1 In the absence of any specific accident records being provided the Road Safety Audit Team have examined the website [www.crashmap.co.uk](http://www.crashmap.co.uk) for injury accidents recorded at the site.
- 2.2 A map based plan of the accidents have been provided in Annex 3
- 2.3 It is noted that for the five-year period from 2017 -2021 there were no accidents directly related to the area of the new development.

## 3.0 ITEMS ARISING FROM THE STAGE 2 AUDIT

- 3.1 The Audit Team note that a Stage 2 Road Safety Audit was undertaken for the whole site in November 2014
- 3.2 Item B.1.4.1 related to the potential for landscaping to obscure visibility. This item is not an issue within the area inspected as part of this audit.
- 3.3 Item B.1.7.1 related to swept paths for larger vehicles. This item is not an issue within the area inspected as part of this audit.
- 3.4 Item B.1.7.2 related to the need for accessible dropped kerbs at locations such as crossing points but also as driveways that act as the main pedestrian route to housing. On site it was noted that multiple kerbs were higher than 25mm at driveways. Dropped kerbs crossing points were lower but not all appeared to be at the 6mm accessible level.
- 3.5 Item B.3.3.1 to B.3.3.3 related to the main junctions to the site and as such are not an issue within the area inspected as part of this audit.
- 3.6 Item B.3.3.4 related to the potential need for give way markings at the side road junctions with the spine road. At present the Audit Team do not believe these are required.
- 3.7 Item B.5.1.1 related to the positioning of lighting columns in shared space areas. This matter appears to have been dealt with in an appropriate manner for the areas inspected.

## 4.0 ITEMS ARISING FROM THIS STAGE 3 AUDIT

### 4.1 GENERAL

#### 4.1.1 PROBLEM

Location: Greenwell Wynd- Junctions with Fisher Place, Hapland Row and at No 163  
Drawing(s): E9876~0925  
Summary: Low ironwork can result in future degradation of the carriageway. This in turn can result in users making unexpected manoeuvres that can lead to various incident types.

It was noted that at the above locations ironwork siting in the carriageway was 'low'.

This has the potential to result in a degrading carriageway surface. This can be seen at No 163, below



## RECOMMENDATION

It is recommended that a review of low ironwork be undertaken and repairs made to provide a level surface.

## 4.2 LOCAL ALIGNMENT

### 4.2.1

The Audit Team have no comments to raise under this section at this time.

## 4.3 JUNCTIONS

### 4.3.1

The Audit Team have no comments to raise under this section at this time.

## 4.4 NON MOTORISED USERS (NMU)

### 4.4.1 PROBLEM

Location: Greenwell Wynd- Junctions with Fisher Place and Dunniker Way

Drawing(s): E9876~0925

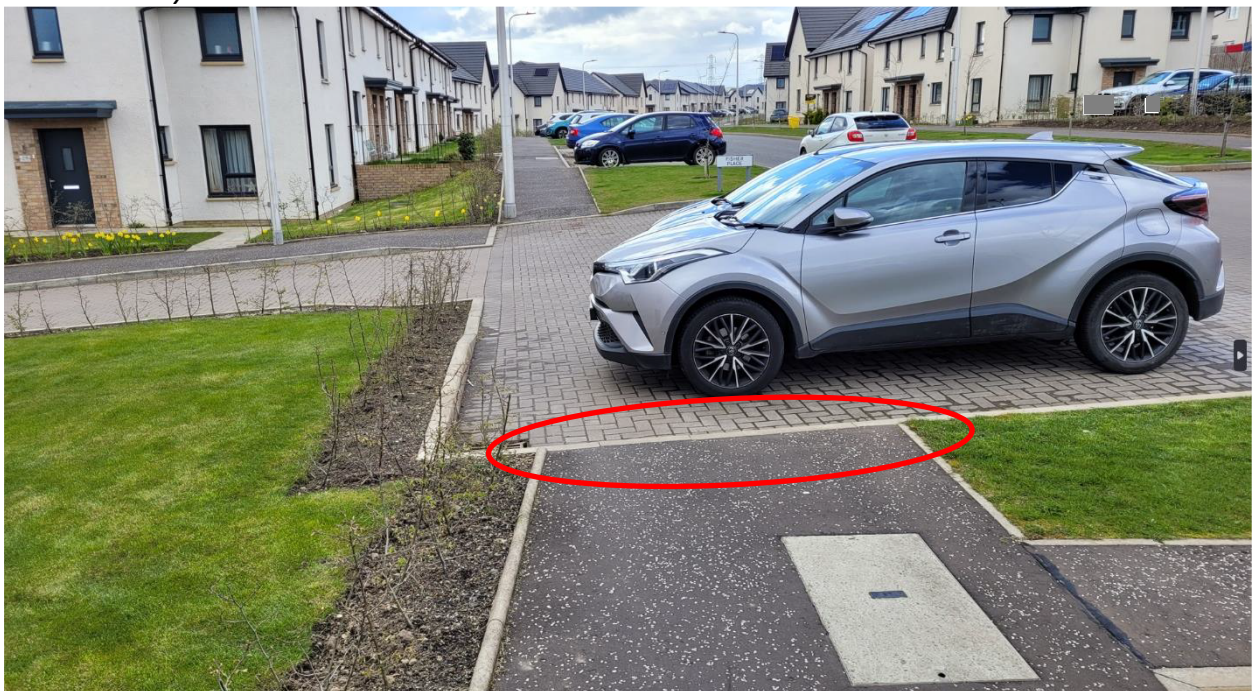
Summary: The blocking of pedestrian desire lines can result in pedestrians walking on the carriageway with an increased probability of conflicting with vehicular traffic.

At the two junctions locations a contrasting colour surface has been provided to highlight the junction. However, due to the footway layout, part of the junctions are now being used for on-

street parking. This inconsiderate parking then blocks the footway / desire line for pedestrians, especially those with mobility difficulties.



*Dunniker Way*



*Fisher Place*

In addition to blocking the pedestrian desire line, the kerb highlighted as Fisher Place has not been dropped.

## RECOMMENDATION

It is recommended that steps are taken to ensure the pedestrian route is unobstructed. This may require the footway and kerbing to be extended through the junction.

At Fisher Place a dropped kerb is required.

#### 4.4.2 PROBLEM

Location: Greenwell Wynd- Junction with Bowbridge Crescent (East)

Drawing(s): E9876~0925

Summary: The blocking of pedestrian desire lines can result in pedestrians walking on the carriageway with an increased probability of conflicting with vehicular traffic.

Similar to the comment above inconsiderate parking appears to be taking place at Bowbridge Crescent. In addition to this there is a substandard footway width and a short dropped kerb provided.



#### RECOMMENDATION

It is recommended that steps are taken to ensure the pedestrian route is unobstructed. This may require the footway and kerbing to be extended through the junction. The sub-standard footway layout as highlighted should also be amended to a more 'standard layout, similar to that opposite.

#### 4.5 ROAD SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING

##### 4.5.1

The Audit Team have no comments to raise under this section at this time.

## 5.0 AUDIT TEAM STATEMENT

We certify that this audit has been carried out generally in accordance with GG 119

### AUDIT TEAM LEADER

Name: [REDACTED]  
BSc, MSc IEng FIHE, MCIHT, FSoRSA  
Position: Managing Director

Signed: [REDACTED]  
Dated: 18 April 2023

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Address: 69 Barnton Park Avenue  
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### AUDIT TEAM MEMBER

Name: [REDACTED]  
MCIHT, MSoRSA  
Position: Director

Signed: [REDACTED]  
Dated: 18 April 2023

Organisation: Stewart Paton Associates Ltd  
Consulting Civil Engineers

Address: 69 Barnton Park Avenue  
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EH4 6HD

Annex 1 LIST OF PLANS AND DOCUMENTS

E9876~0925 [Phasing Plan RCC]

## Annex 2 PROBLEM LOCATION PLAN

- Specific problem areas have been identified and referenced by the comment number in the text
- General issues covering multiple areas have not been highlighted on this plan so as to avoid clutter and potential misinterpretation.

(Spine Road 3 in yellow below)



### Annex 3 ACCIDENT RECORD

