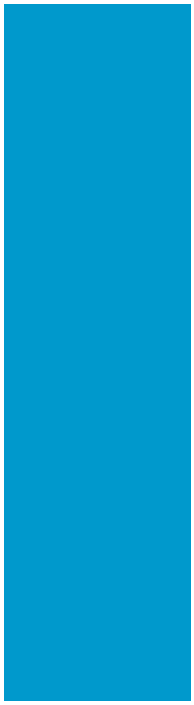
Bolton Council

Bolton Town Centre

River Defence Inspection

October 2009



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Revision Schedule

River Defence Inspection
July 2009

Rev	Date	Details	Prepared by	Reviewed by	Approved by
D01	October 2009	Draft	**Michael Gartside** Engineer	**Alpha Robinson** Principal Flood Risk Engineer	**Annette Lardeur** Associate

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1 Introduction

1.1 Commission

Scott Wilson Ltd has been commissioned to undertake the Level 2 Strategic Flood Risk Assessment (SFRA) for Bolton.

This report constitutes the Defence Inspection Report for Stockport, the aims of which are outlined below.

1.2 Aims and Objectives

The primary aims of the Bolton Level 2 SFRA are to:

- Ensure that sufficient information is provided to enable Bolton Council to carry out the Sequential Test, in line with PPS25, in relation to their proposed spatial strategies including, as necessary, filling in data gaps identified in the Greater Manchester Sub-Regional / Level 1 SFRA.
- Ensure that sufficient information is provided to enable the Exception Test to be applied for those sites where development may be directed to high flood risk areas.

The specific aims of this Defence Inspection Report are to:

- Inspect and schedule the current condition of flood defence infrastructure.

2 Previous Information

2.1 Level 1 SFRA

Figures compiled during the Level 1 SFRA showing the approximate flood zones and defence types were consulted before and during the inspection.

A copy of this information can be found in Appendix A.

2.2 NFCDD Data

Environment Agency NFCDD data giving lengths and types of defence were obtained and consulted with the Level 1 SFRA figures.

A copy of this information can be found in Appendix B.

3 Previous Defence Classification

3.1 Level 1 SFRA Classification

3.1.1 Section A – River Croal (Mayor Street to Chorley Street / Great Bridge)

Existing Classification

Left	Natural channel
Right	Natural channel

Land Use

Left	Park / open ground
Right	Playing fields / light industrial

3.1.2 Section B – River Croal (Great Bridge to Marsden Road)

Existing Classification

Left	Natural channel
Right	Natural channel

Land Use

Left	Car park / open ground
Right	Commerical / residential

3.1.3 Section C – River Croal (Marsden Road to St Edmond Street)

Existing Classification

Left	Culvert
Right	Culvert

Land Use

Left	Culvert
Right	Not applicable

3.1.4 Section D – River Croal (St Edmond Street to Brook Street)

Existing Classification

Left	Natural channel
Right	Natural channel

Land Use

Left	Mixed use (commercial / derelict buildings / car parking)
Right	Mixed use (commercial / derelict buildings / car parking)

3.1.5 Section E – River Croal (Brook Street to Crown Street)

Existing Classification

Left	Culvert
Right	Culvert

Land Use

Left	Not applicable
Right	Not applicable

3.1.6 Section F – River Croal (Crown Street to Manor Street)

Existing Classification

Left	Natural channel
Right	Natural channel

Land Use

Left	Car park
Right	Commercial

3.1.7 Section G – River Croal (Manor Street to Church Bank)

Existing Classification

Left	Raised defence / Natural channel
Right	Natural channel

Land Use

Left	Car park / light industrial
Right	Commercial

4 Inspection

4.1 Inspection Conditions

Date of inspection	24th June 2009
Inspected by	Michael Gartside
Weather	Sunshine
Method of inspection	On foot

4.2 Classifications

The following classifications have been used to define the river defences:

Natural channel – lightly vegetated	Natural channel with grassed slopes, interspersed with light vegetation and occasional trees.
Natural channel – heavily vegetated	Natural channel with dense covering of bushes and trees.
Masonry-lined channel	Channel sides formed of a mixture of natural channel and vertical masonry walling, the height of the masonry ranging from less than 1m to full height. Note, the masonry does not extend above the bank and therefore does not constitute any form of defence.
Raised defence	Either earth embankment or masonry walling projecting above bank level.
Culvert	Underground channel, no access possible

4.3 Inspection schedule

4.3.1 Section A – River Croal (Mayor Street to Chorley Street / Great Bridge)

Chainage	Classification	Notes	Plate No's
General Notes *Approximately 80% of section investigated from both banks and various footbridges* *Stone pitching to base of channel, flat bottom apart from stretch between CH430 – CH495 which has a distinct dry weather flow channel.*			
Right bank			
0 – 225	Masonry lined channel	Stone lined channel, good condition	1 – 3
225 – 435	Natural – channel – heavily vegetated	Densely vegetated channel No sign of instability due to erosion at base of bank or oversteep banks	4
435 – 640	Masonry lined channel	Stone lined channel, good condition	5 – 8
Left bank			
0 – 225	Masonry lined channel	Stone lined channel, reasonable condition	1 – 3
225 – 435	Natural – channel – heavily vegetated	Densely vegetated channel No sign of instability due to erosion at base of bank or oversteep banks	4
435 – 640	Masonry lined channel	Stone lined channel, good condition	5 – 8

4.3.2 Section B – River Croal (Great Bridge to Marsden Road)

Chainage	Classification	Notes	Plate No's
General Notes *100% of section investigated from left bank* *Stone pitching to base of channel with distinct dry weather flow channel*			
Right bank			
640 – 720	Masonry lined channel	Stone lined channel, good condition	9
Left bank			
640 – 720	Masonry lined channel	Stone lined channel, good condition	9

4.3.3 Section C – River Croal (Marsden Road to St Edmond Street)

Chainage	Classification	Notes	Plate No's
General Notes *Only culvert inlet and outlet inspected, no blockages*.			
Right bank			
720 - 825	Culvert	No inspection	-
Left bank			
720 - 825	Culvert	No inspection	-

4.3.4 Section D – River Croal (St Edmond Street to Brook Street)

Chainage	Classification	Notes	Plate No's
General Notes *100% of section investigated from left bank* *Stone pitching to base of channel with distinct dry weather flow channel*.			
Right bank			
825 – 1050	Masonry lined channel	Stone lined channel, good condition up to 4m in height	10 – 13
Left bank			
825 – 1050	Masonry lined channel	Stone lined channel, good condition up to 4m in height	10 – 13

4.3.5 Section E – River Croal (Brook Street to Crown Street)

Chainage	Classification	Notes	Plate No's
General Notes *Only culvert inlet and outlet inspected, no blockages*.			
Right bank			
1050 - 1360	Culvert	No inspection	-
Left bank			
1050 - 1360	Culvert	No inspection	-

4.3.6 Section F – River Croal (Crown Street to Manor Street)

Chainage	Classification	Notes	Plate No's
General Notes *100% of section investigated from bridges on Manor Street and Crown Street* *Stone pitching to base of channel with distinct dry weather flow channel*			
Right bank			
1360 – 1405	Masonry lined channel	Stone lined channel, good condition	14, 15
Left bank			
1360 – 1405	Masonry lined channel	Stone lined channel, good condition	14, 15

4.3.7 Section G – River Croal (Manor Street to Church Bank)

Chainage	Classification	Notes	Plate No's
General Notes *100% of section investigated from left bank* *Stone pitching to base of channel with distinct dry weather flow channel*			
Right bank			
1405 – 1615	Masonry lined channel	Stone lined channel, good condition	16 – 20
Left bank			
1405 – 1615	Masonry lined channel	Stone lined channel, good condition	16 – 20

Figures

Photographs

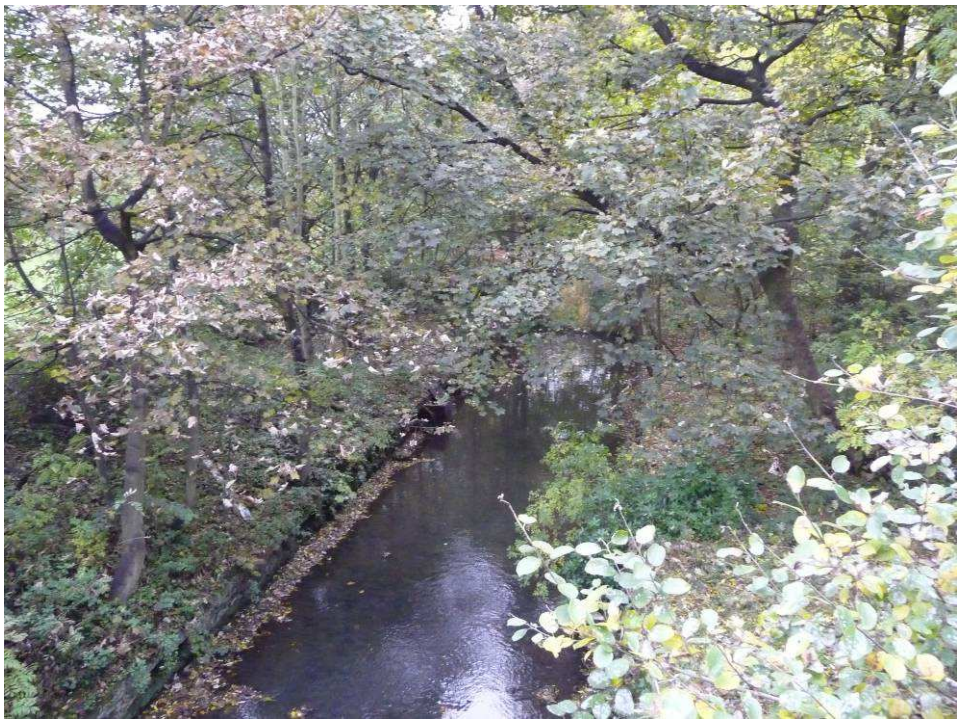

Plate 1 – View downstream from Mayor Street Bridge

Plate 2 – View upstream from footbridge in Queen's Park

Plate 3 – View downstream from footbridge in Queen's Park

Plate 4 – View upstream from footbridge of naturally vegetated section

Plate 5 – View downstream of weir to the east of the playing fields

Plate 6 – View upstream from footbridge showing distinct channel profile

Plate 7 – View downstream from footbridge showing distinct channel profile

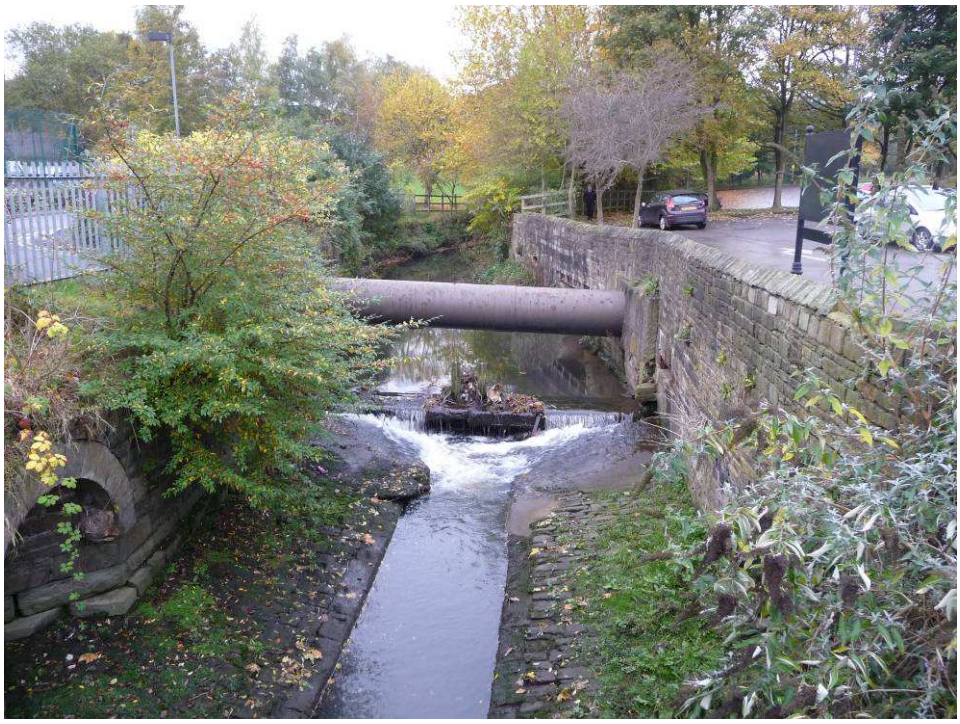

Plate 8 – View upstream from Chorley Street bridge

Plate 9 - – View downstream from Chorley Street bridge

Plate 10 – View downstream from St Edmund Street bridge

Plate 11 - View upstream from Central Street bridge

Plate 12 – View downstream from Central Street bridge

Plate 13 – View downstream from Brook Street

Plate 14 - View downstream from Crown Street bridge

Plate 15 – View upstream from Manor Street bridge

Plate 16 – View downjstream from Manor Street bridge

Plate 17 – View upstream of Manor Street bridge

Plate 18 – View upstream adjacent to UU pumping station

Plate 19 – View downstream adjacent to UU pumping station

Plate 20 – View downstream to culvert under Church Bank

Appendix A

Appendix B