

# Culvert Repairs, Darley Abbey, Derbyshire

## Report on an Archaeological Watching Brief



Trench 1 with culvert

**ARS Ltd Report 2010/25**  
February 2010

Oasis no: archaeol5-73616

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<i>Executive Summary</i> .....	2
1. Introduction.....	3
2. Location, Land Use and Geology.....	3
3. Methodology.....	5
4. Results.....	5
5. Conclusions.....	9
6. Publicity, Confidentiality and Copyright .....	9
7. Archiving.....	10
8. Statement of Indemnity .....	10
9. Acknowledgements.....	10
References .....	11
Appendix I: Context Register	
Appendix II: Photographic Register	
Appendix III: Plan Drawings	

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**List of Illustrations**

Fig. 1 Location of the development site.....3  
Fig. 2 Site plan showing Trench location.....4  
Fig. 3 East Facing Section of Trench 1.....6  
Fig. 4 Trench 1 with culvert.....7  
Fig. 5 Culvert in Trench 1.....7  
Fig. 6 East Facing Section of Trench 2.....8  
Fig. 7 Trench 3 with Sewer.....9

***Executive Summary***

*An archaeological watching brief was undertaken by Archaeological Research Services Ltd on the groundworks involved with the inspection and repair of a brick culvert in the vicinity of Darley Abbey, Derby. Trench 1 revealed the culvert at a depth of 3.20m from surface level. The culvert was not accessible in Trench 2 due to its location beneath a modern trunk sewer. No finds or features of an archaeological interest were identified during the watching brief.*

## 1. Introduction and Background

- 1.1. This report presents the findings of an archaeological watching brief undertaken at Darley Abbey, Derbyshire on groundworks related to the redevelopment and repair of a brick culvert. The watching brief was undertaken by Richard Smalley of Archaeological Research Services Ltd for Derbyshire County Council on the 23<sup>rd</sup> - 24<sup>th</sup> February 2010 and 3<sup>rd</sup> March 2010.
- 1.2. In November 2006 Archaeological Research Services Ltd undertook an archaeological watching brief on the site of The Old Barn approximately 400m south of Trench 1. During the watching brief a number of walls and a narrow path were uncovered. Pottery identified beneath the walls confirmed a mid 13<sup>th</sup> to 14<sup>th</sup> century date. An arched structure believed to be a former mill stream bridge was discovered in close proximity to The Old Abbey pub (Shakarian 2007).
- 1.3. Darley Abbey was founded by Robert de Ferrers in around 1146 as an Augustinian Priory. Situated next to the River Derwent, the Abbey became one of the most important Abbeys in Derbyshire. It was destroyed as part of the Dissolution in 1538 (Robinson 2001).

## 2. Location, Land Use and Geology

- 2.1. Darley Abbey is situated approximately 2km north of Derby city centre and lies within the Derwent Valley Mills World Heritage Site. The watching brief included supervision of three excavations. Trenches 1, 2 and 3 were located 92m up a track perpendicular to Old Lane and parallel to the River Derwent (SJ 353 386).
- 2.2. The underlying geology of the site is undifferentiated Triassic Rocks. This bedrock layer is overlain by Alluvium (British Geological Survey 1:625000, 2008).

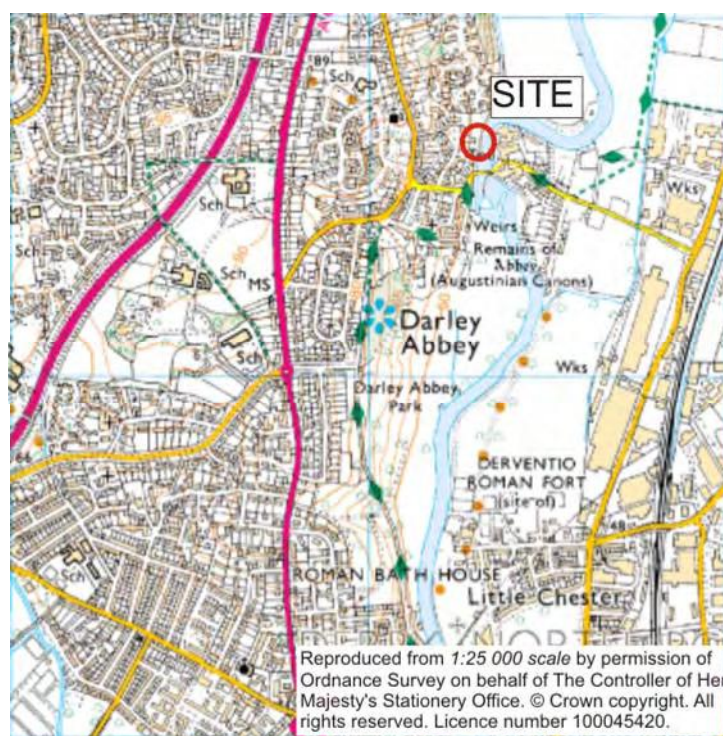
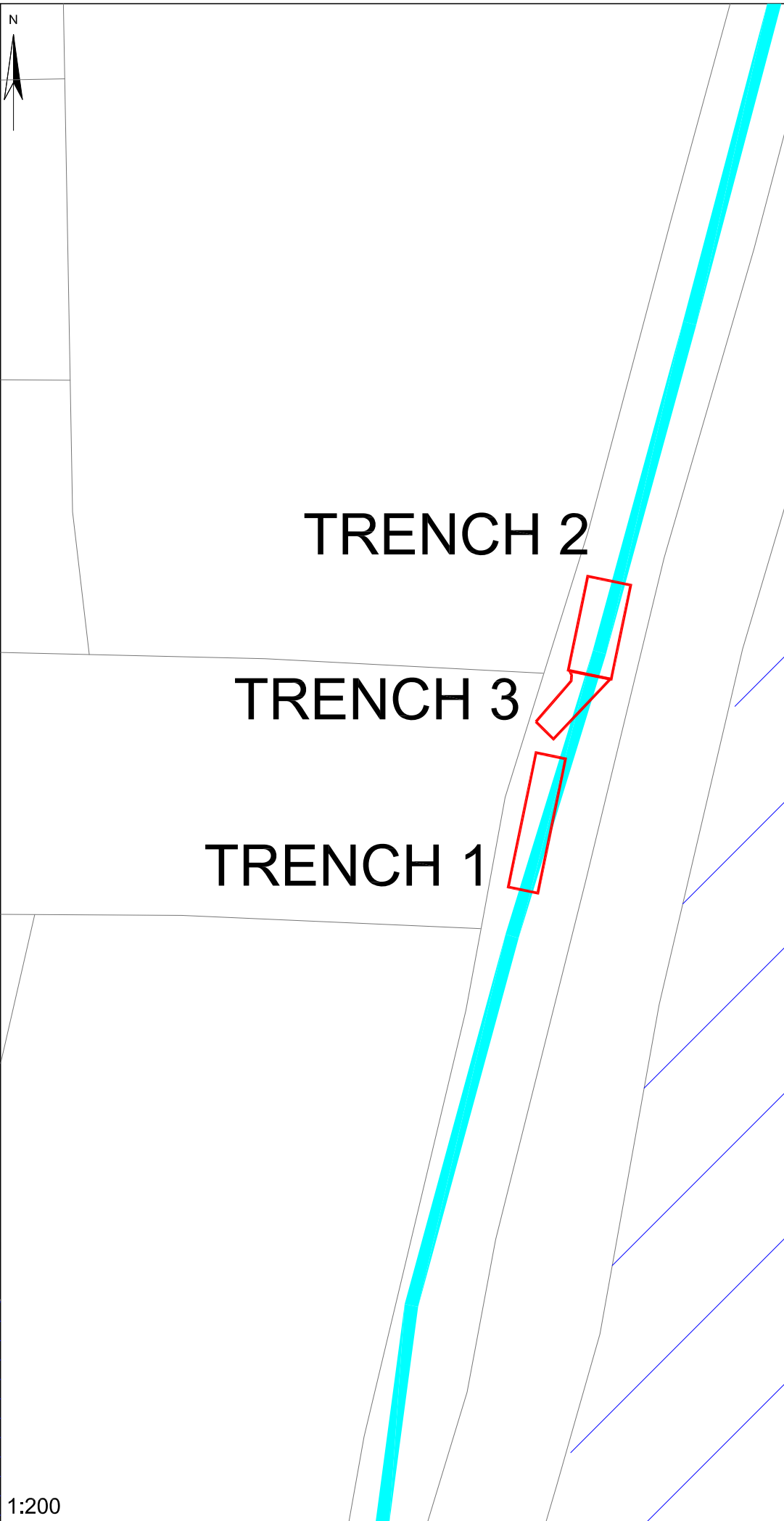
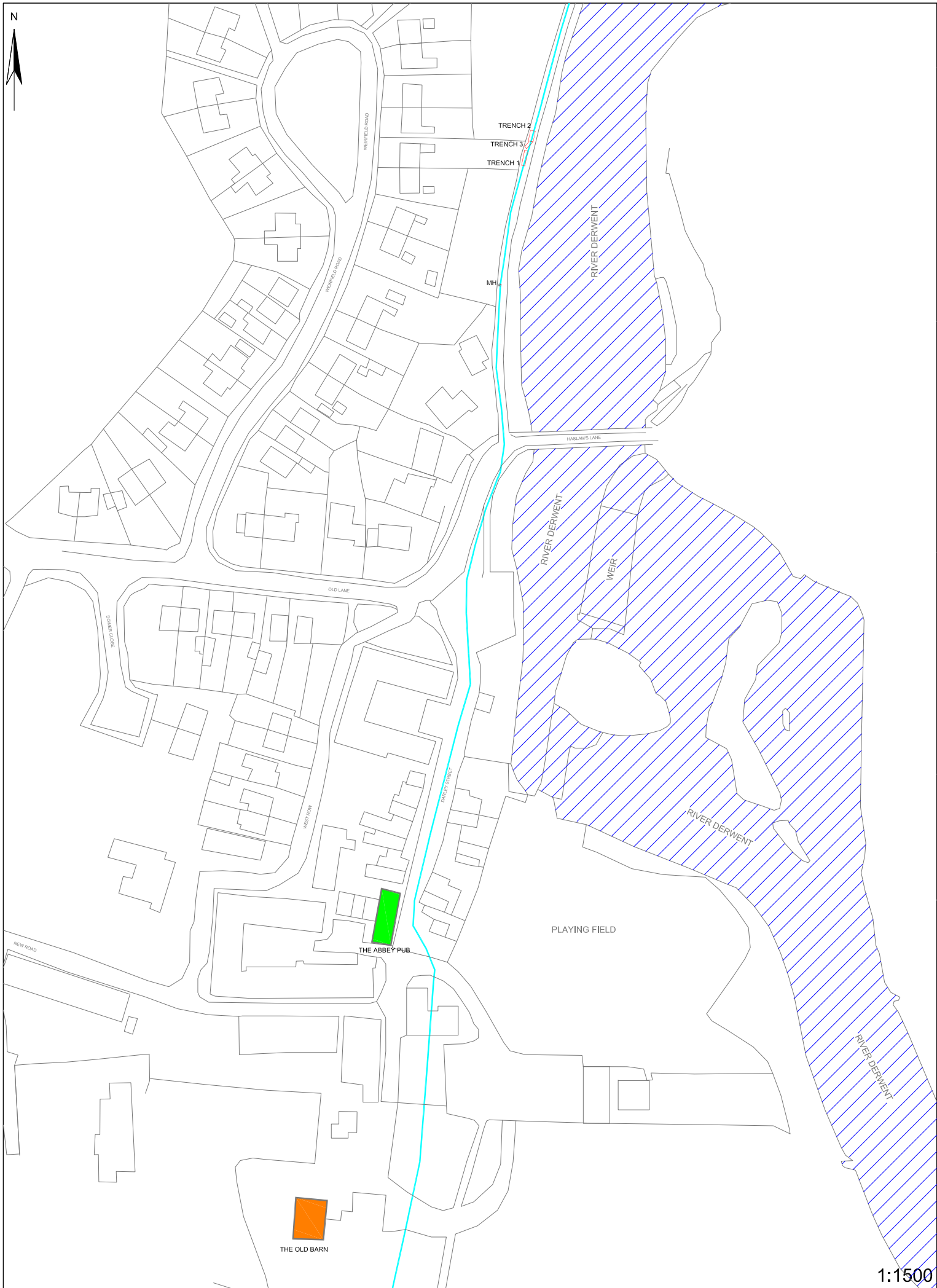


Fig. 1 Location of the development site.



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Site Code: DARLEY 10  
 Drawing Ref: DARLEY 10 FIG 02  
 Date: 04-03-2010  
 Drawn: RAJS  
 Scale: AS SHOWN @ A3

Client:  
 DERBYSHIRE COUNTY COUNCIL

Figure 02:  
 Archaeological Watching Brief-  
 Culvert Repairs, Darley Abbey, Derbyshire

Subject:  
 Trench Locations

Key:

Trenches

The Abbey Pub

The Old Barn

Line of Culvert

Notes:

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1:1500 1:200

### 3. Methodology

- 3.1. Trench 1 had already been excavated to a depth of 2.90m before Archaeological Research Services Ltd were commissioned for the work, as a result no comment can be made on the contractor's method of excavation for this trench. The last 100-200mm of sub-stratum was removed using a toothless bucket on a back-acting machine to expose the top of the brick culvert which was then cleaned using hand tools by the contractors on site. This was observed by a representative from Archaeological Research Services Ltd. Trenches 2 and 3 were excavated using a back-acting machine using a toothless bucket.
- 3.2. All aspects of the investigation were carried out in accordance with the Institute for Archaeologists' *Code of Conduct (Revised 2008)* and *Standard and Guidance for an Archaeological Watching Brief (Revised 1999)*.
- 3.3. Any identified archaeological features were to be sectioned, photographed and recorded. Feature plans and sections were made at 1:20 scale. All identified contexts were recorded on *pro-forma* sheets, and a context register, along with a photographic register, were produced for inclusion in the archive. A copy of the context register, photographic register, Harris matrix and the full Written Scheme of Investigation can be found in the appendices of this report.

### 4. Results

#### Trench 1

- 4.1. Trench 1 was positioned 92m along a path which runs parallel to the River Derwent at the junction of Old Lane and Haslam's Lane in order to identify a suspected blockage caused by the damaged culvert. The surface level comprised a layer of compacted yellowy-grey hardcore (**001**) which ran along the length of the path. This layer continued for approximately 50mm before it merged with a bedding layer of compacted grey stones (**002**). 150mm below surface level a horizon of a black coarse-grained matrix with stone inclusions (**012**) was encountered. This context has been interpreted as semi degraded former tarmac surface of the path and had a thickness of 100mm.
- 4.2. Immediately below context 012 (250mm from surface level) was a layer of orangey brown sandy clay with modern brick demolition debris inclusions (**003**). This layer extended to a depth of 600mm from surface level where, in the south facing and east facing sections of the trench, a 300mm thick layer of compacted dark ashy material (**007**) was encountered. This layer has been interpreted as the original surface level of the path. In the southern end of the east facing section this context was cut by a deposit of made ground consisting of grey clinker-like stones (**006**). In the south facing section beneath context 007 was a red marl clay natural sub-stratum (**005**).

- 4.3. Context 007 was not evident in the west facing section of Trench 1, where between 680mm and 850mm below surface level a sandy stone matrix (004) similar to that of 002 was encountered. Immediately beneath context 004 was the natural substratum (005). In the east facing section of the trench a single line of bricks 1m in length (008) was evident immediately beneath 007. The origin of this short length of bricks is unclear; however it is possible that they represented a former surface level that has been almost completely destroyed by the construction and subsequent reconstruction of the path including the deposition of context 006. Immediately beneath this context is the natural substratum (005).
- 4.4. The natural substratum (005) consisted of red marl clay which was evident within the trench from approximately 1m from the surface level to the bottom of the trench over 3m deep. Within this context was a cast iron trunk sewer (009) evident in the west facing section. Around the pipe was a layer of small grey bedding stones (011). Beneath the pipe and at a depth of 3.20m was the arched brick culvert (010) which ran along the bottom of the trench. The culvert had an external width of 600mm and internal width of 450mm. It was made up of keystone shaped bricks which measure 230mm long x 70mm wide x 100mm deep. The roof of the northern section of the culvert was broken. This is thought to have occurred during the placing of the trunk sewer (009) which sat immediately above it.



Fig. 3 East facing section of Trench 1 (scale = 2m)



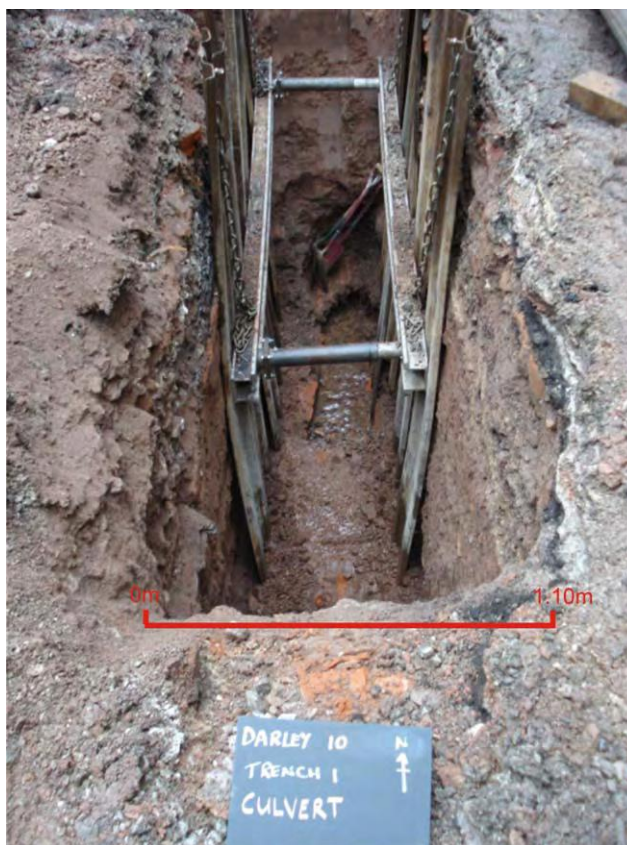


Fig. 4 Trench 1with Culvert in bottom



Fig. 5 Culvert (010) in Trench 1

## Trench 2

- 4.5. Trench 2 was opened 3m to the north of Trench 1 in order to ascertain whether the culvert was damaged further in this direction. The surface level (**001**) and bedding layer (**002**) were identified to a depth of 100mm from ground level. Immediately beneath the bedding layer the same horizon of degraded tarmac (**012**) was evident for approximately 100mm. The same layer of made ground identified in Trench 1 was present at a depth of around 500mm and continued for a further 300mm before merging with context 007 followed by the clay substratum (**005**).
- 4.6. The trunk sewer (**009**) was encountered at a depth of around 2.25m from surface level. The brick lined culvert (**010**) was located directly beneath the sewer and therefore could not be inspected. The sewer was surrounded by a small layer of packing gravel (**011**).



Fig. 6 Example of Stratigraphy of Trench 3 (scale = 2m)

## Trench 3

- 4.7. Trench 3 was opened to create a detour around a damaged manhole identified just below surface level approximately 1m to the north of Trench 1. It is believed that the damage to the culvert (**010**) was caused by the construction of this manhole in the 1970s. In effect Trench 3 is a south westerly extension of Trench 2.
- 4.8. No features of an archaeological interest were identified in this trench and its stratigraphy is the same as that of Trenches 1 and 2. The trunk sewer (**009**) was evident in at a depth 2.25m in the west facing section of the trench.

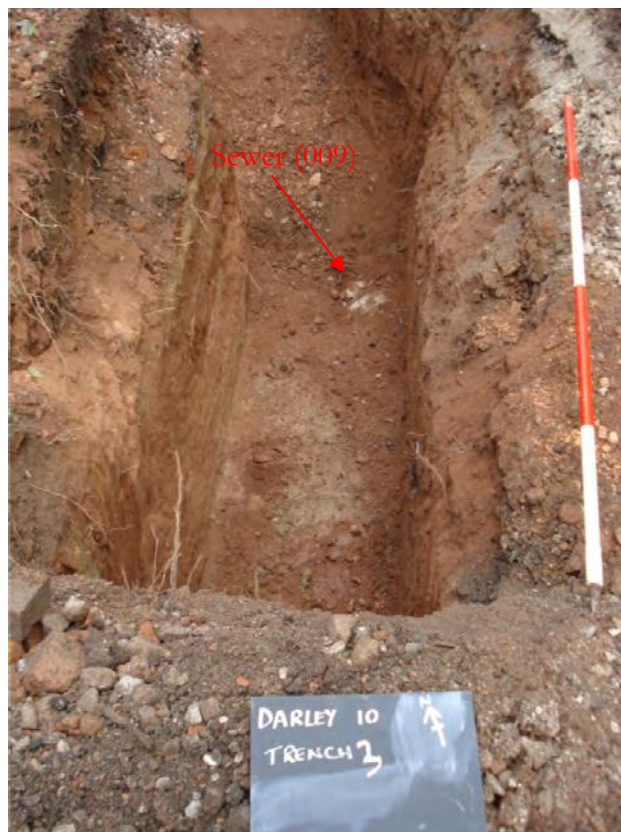


Fig. 7 Trench 3 with partially backfilled Trench 2 in background (scale = 2m)

## 5. Conclusions

- 5.1 The archaeological watching brief undertaken at Darley Abbey, Derbyshire identified no finds or features of archaeological interest. The stratigraphy of the trenches indicates that the history of the site is based on the construction of the culvert and the development and redevelopment of the footpath.
- 5.2 The culvert (010) was evident in Trench 1, but was not accessible in Trench 2 due to its location beneath a modern trunk sewer (009). Trench 3, which extended beyond the path and into the earthen verge indicated that there was approximately 500mm of made ground before the natural clayey substratum.

## 6. Publicity, Confidentiality and Copyright

- 6.1. Any publicity will be handled by the client.
- 6.2. Archaeological Research Services Ltd will retain the copyright of all documentary and photographic material under the Copyright, Designs and Patent Act (1988).

**7. Archiving**

No finds were recorded or collected during the watching brief; as a result Derbyshire Museums do not require any deposition. A copy of this report will be sent to the Records Office.

**8. Statement of Indemnity**

- 8.1. All statements and opinions contained within this report arising from the works undertaken are offered in good faith and compiled according to professional standards. No responsibility can be accepted by the author/s of the report for any errors of fact or opinion resulting from data supplied by any third party, or for loss or other consequence arising from decisions or actions made upon the basis of facts or opinions expressed in any such report(s), howsoever such facts and opinions may have been derived.

**9. Acknowledgements**

- 9.1. Archaeological Research Services Ltd would like to acknowledge all those involved in the successful outcome of the project. In particular Archaeological Research Services Ltd would like to thank Kevin Tozer of Derby City Council, the County Planning Archaeologist Steve Baker, and also the team of contractors on the ground.

## References

British Geological Survey. 2008. UK\_Superficial\_625K\_v4.

British Geological Survey. 2005. 625K\_v5\_Bedrock.

Robinson, D. 2001. *Darley Abbey- Notes on the Lost Buildings of an Augustinian Monastery in Derbyshire, Reports and Papers 45*, English Heritage.

Shakarian, J. 2006. *Unpublished report on work undertaken at The Old Barn, Darley Abbey for Derby City Council*.

## Appendix I: Context Register

Context	Description	Max Dimensions (m.)	Max depth	Colour of fill	Texture of fill	Small Finds
001	Footpath surface level made up of compressed hardcore stones and pebbles	Across site	50mm	Grey	Stones/Pebbles	-
002	Bedding layer for footpath hardcore	Across site	250mm	Yellow-Grey	Stones Pebbles	-
003	Layer of made ground with brick and building debris inclusions	Across site	680mm	Orangey-brown	Sandy	-
004	Made ground similar in composition to surface level bedding layers	Approx. 1m in western facing section of Trench 1	850mm	Yellow-grey	Stony	-
005	Natural sub stratum	Across site	-	Orange	Clay	-
006	Made ground high brick content	Eastern facing section of Trench 1	-	Orangey-brown	Sandy with brick inclusions	-
007	Dark layer of compressed ash-like material. Possible original track level	South facing and east facing sections of Trenches 1 and 2	900mm	Black-grey	Sandy ashy	-
008	Bricks- possible made ground	1m in east facing section of trench 1	100mm	Orange	-	-
009	Modern trunk sewer	-	2.25m	-	-	-
010	Brick curved culvert	-	>3m	Orange	-	-
011	Gravel fill around modern trunk sewer	-	2.2m	Grey	-	-
012	Degrading tarmac layer. Possible former track surface level/made ground	-	250mm	Black	Gritty	-

**Appendix II: Photographic Register**

<b>Cat. No.</b>	<b>Digital Archive No.</b>	<b>Film/Frame No.</b>	<b>Description</b>	<b>Facing</b>	<b>Date</b>	<b>Scale</b>
1	001	1/2	Trench 1- Section	W	23/02/2010	2m
2	002	1/2	Trench 1	N	23/02/2010	2m
3	003	1/2	Trench 1	N	23/02/2010	2m
4	004	1/2	Culvert in Trench 1	N	24/02/2010	-
5	005	1/2	Culvert in Trench 1	N	24/02/2010	-
6	006	1/2	Trench 2 Part Ex	S	03/03/2010	2m
7	007	1/2	Trench 2 Part Ex	W	03/03/2010	2m
8	008	1/2	Trench 2 Part Ex	E	03/03/2010	2m
9	009	1/2	Trench 3	NE	03/03/2010	2m

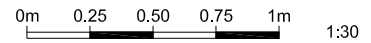
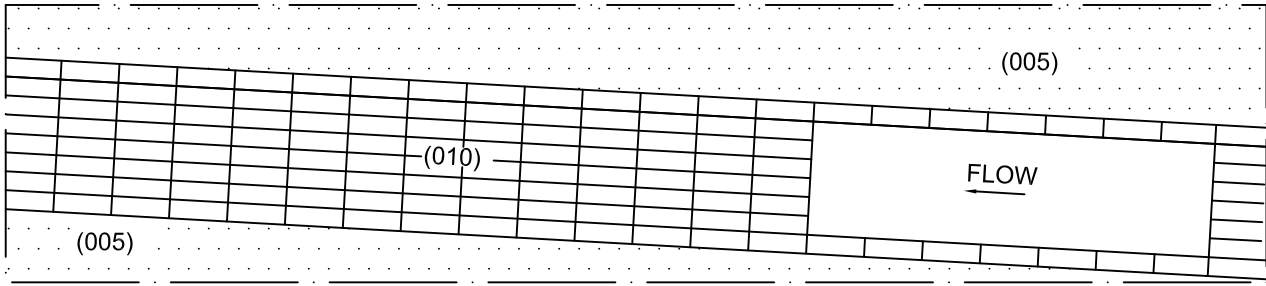
### **Appendix III: Plan Drawings**



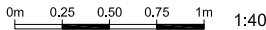
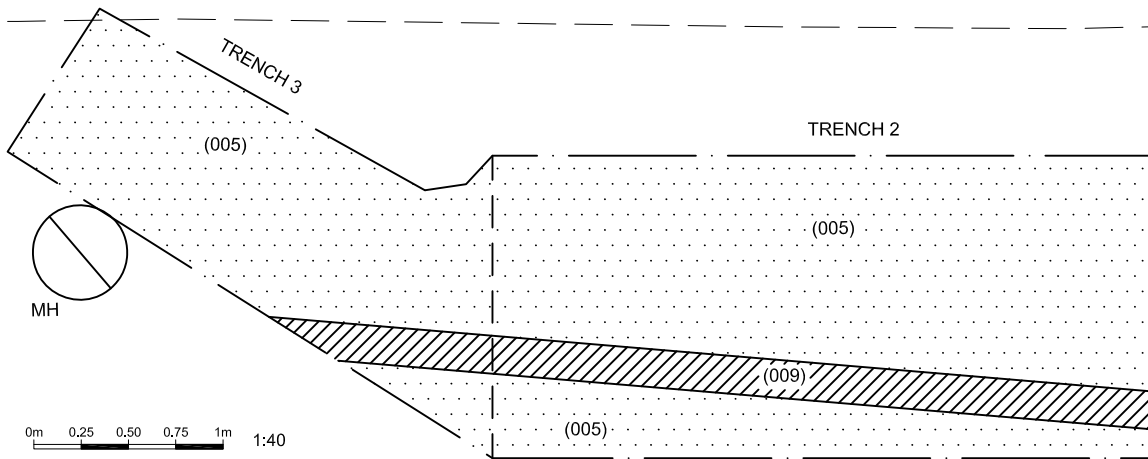


# TRENCH 1

EDGE OF FOOTPATH

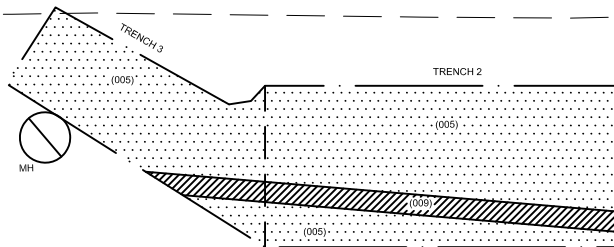
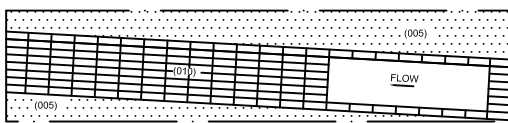


# TRENCHES 2+3



# OVERALL PLAN




EDGE OF FOOTPATH



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Appendix III: Plan Drawings

### Key:

-  Context 005-  
Natural Sub-Stratum
-  Context 009-  
Trunk Sewer
-  Context 010-  
Brick Culvert

Notes:

Site Code: DARLEY 10  
 Drawing Ref: App III  
 Date: 01-03-2010  
 Drawn: RAJS  
 Scale: AS SHOWN @ A4

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