

CASTLE GREEN ENHANCEMENT SCHEME, TAUNTON, SOMERSET

(Centred on NGR ST 2261 2459)

Results of archaeological investigations

Taunton Deane Borough Council planning ref. nos
38/09/0388 and 38/09/0389/LB

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Taunton Deane Borough Council

Document No: ACD309/2/2

Date: March 2015



AC archaeology

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CONTENTS

	<i>Summary</i>	
1.	Introduction	1
2.	Archaeological background	1
3.	Aim	2
4.	Methodology: Excavation	2
5.	Methodology: Monitoring	3
6.	Results: Excavation	4
7.	Results: Monitoring	6
8.	The finds	9
9.	Human skeletal remains	11
10.	Radiocarbon dating	17
11.	Discussion	18
12.	Conclusions	19
13.	Archive and OASIS	19
14.	Acknowledgements	19
15.	Sources consulted	19

List of figures

- Fig. 1: Location of site
Fig. 2: Site plan showing excavation areas and areas monitored
Fig. 3: Section of boundary wall 2098
Fig. 4: Excavation Area 1, plan of features cutting deposit 2006 and section
Fig. 5: Excavation Area 1, plan of deposits 2115, 2020 and plan of SK2099
Fig. 6: Location plan and section of wall 2262
Fig. 7: Plans of slotdrain to the east of the Winchester Arms
Fig. 8: Plan and section of connection trench including skeletons 2224, 2228, 2231 and 2234
Fig. 9: Plan and section of cable access pit on the western side of the car park

List of plates

- Plate 1: Excavation Area 1, post-excavation, looking west (scale 2m)
Plate 2: Oblique view of wall 2098, looking northwest (scale 1m)
Plate 3: Excavation Area 1, former cattle market hard core 2005 (scale 1m)
Plate 4: Excavation Area 1, north-facing section of post-medieval linear features (scale 1m)
Plate 5: Excavation Area 1, post-medieval postholes and stake holes, looking south (scale 1m)
Plate 6: Excavation Area 1, skeleton SK2099, looking south (scale 1m)
Plate 7: Excavation Area 3, looking east (scale 0.3m)
Plate 8: Excavation Area 3, excavation in progress, looking northeast (scale 1m)
Plate 9: Former cattle market surface exposed on the east side of car park, looking north (scale 1m)

Plate 10: Detail of former cattle market surface exposed on the east side of car park (scale 1m)
Plate 11: Wall 2262 in slotdrain trench north of the former grammar school, looking east (scale 0.3m)
Plate 12: Trench containing skeletons SK2224, SK2228, SK2231 and SK2234, looking northwest
Plate 13: Skeletons SK2224, SK2228, SK2231 and SK2234, looking north (scale 1m)
Plate 14: Work in progress for footbridge construction, looking northwest

Appendix 1: The radiocarbon calibration plot

Summary

A programme of archaeological works including excavation and monitoring was carried out by AC archaeology during groundworks associated with the Castle Green Enhancement Scheme, Taunton, Somerset between November 2011 and May 2012.

The majority of the features and deposits exposed within Castle Green related to the post-medieval use of the area as a livestock market. Evidence for the medieval use of the area was generally limited due to later disturbance, but confirmed the distribution of the early medieval cemetery within the former outer bailey of the castle. An in situ burial, sealed under deposits derived from the digging of the inner moat provided a radiocarbon date of 976-1152 cal AD which was within the expected dating parameters for the use of the cemetery. The scheme had been designed to minimise the disturbance to significant archaeological deposits and in this respect the project was extremely successful with the majority of works disturbing only modern or late post-medieval deposits.

1. INTRODUCTION (Fig. 1)

- 1.1 A programme of archaeological works including excavation, monitoring and building recording was carried out by AC archaeology during groundworks associated with the Castle Green enhancement scheme between November 2011 and May 2012. The work was undertaken for 'Project Taunton' on behalf of Taunton Deane Borough Council and was required under Condition 21 of the grant of planning permission by Taunton Deane Borough Council (38/09/0388) and Conditions 4 and 5 of the grant of Listed Building Consent (38/09/0389/LB).
- 1.2 The works compromised part of the 'Project Taunton' regeneration scheme, which involved the creation of green spaces and paved areas in Castle Green. Much of the development area was located within the former precinct of Taunton Castle, which is designated a Scheduled Monument. The scheduled area includes the shell keep castle, part of an associated outer bailey, a ninth century cemetery and a Civil War siege work. Part of the Castle is also Grade I listed. The Castle Hotel is a Grade II listed building.
- 1.3 The extent of the archaeological works had been agreed with Somerset County Council Historic Environment Service (SCCHES) and English Heritage (EH), with the latter granting Scheduled Monument Consent for the project. The scheme had been designed from the outset to minimise any impacts upon the archaeological resource, although approved revisions were made through the course of the project.
- 1.4 The bedrock geology consists of mudstones and halite-stone underlying a Quaternary alluvial deposit of clay, silt, sand and gravel (British Geological Survey 2015).

2. ARCHAEOLOGICAL BACKGROUND

- 2.1 The history of the site and the archaeological background has been presented in the archaeological assessment for the scheme prepared by Exeter Archaeology (Manning 2008, 3-6). A more detailed history of the medieval castle has also been published (Bush and Meek 1984). A summary is presented below.
- 2.2 Taunton is known to have Saxon origins, although the exact location of the main settlement has yet to be established. A Saxon cemetery, which lies beneath the central Castle Green area, is thought to have gone out of use by the early 12th century, when the castle was constructed. The cemetery is believed to have been associated with a minster, the location of which is thought to lie inside the castle precinct, possibly within the present grounds of the

Castle Hotel. Burials have been exposed on numerous occasions from the 19th century onwards (Clements 1984, 26-32; Manning 2008), and have been radiocarbon dated to the late Saxon period.

- 2.3 Taunton Castle was constructed in the early 12th century, with the position of the outer bailey being represented by the area now known as Castle Green and surrounding buildings. The outer bailey ceased to have a defensive function from at least the 15th century, although the castle was briefly refortified during the Civil War in the mid-17th century. Part of the moat around the western side of the outer bailey was observed in 1933 when the building now occupied by the bingo hall was constructed, and more recent geotechnical investigations undertaken in advance of the enhancement scheme have amended the known position of the infilled moat around the inner bailey (Passmore 2010).
- 2.4 During the 19th and 20th centuries, buildings were constructed within the outer bailey, although many of these have since been demolished. At this time, part of Castle Green was also used as a cattle market.
- 2.5 With the exception of its northern tip and the very eastern end of Castle Bow (lane), the proposed development project site lies entirely within the area designated as a Scheduled Monument, Taunton Castle, SM No. 22851. The development site also lies within the Taunton Conservation Area.

3. AIM

- 3.1 The aim of the excavation and monitoring was to preserve by record any archaeological features or deposits exposed during groundworks associated with the development, with particular reference any remains associated with the Saxon cemetery, the castle and any later medieval/post-medieval settlement.

4. METHODOLOGY: EXCAVATION

- 4.1 The investigations comprised the hand excavation of deeper archaeological deposits in three locations, and the monitoring, recording and excavation of all other intrusive groundworks with the potential to disturb archaeological deposits. All investigations were carried out in line with a method statement prepared by AC archaeology (James 2011), that had been approved by the SCCHEs and EH. Revisions to the design during the initial construction phase and therefore the archaeological methodology were approved by the SCCHEs and EH.
- 4.2 Three areas had been initially targeted for hand excavation: the south bridge abutment for the new bridge over the inner bailey moat (Area 1) and the gully and associated drain runs within the car park of the Castle Hotel (Area 3) and are described below, but following changes to the design the electricity junction box on the northern edge of the current car park (Area 2), was not excavated.
- 4.3 Following the removal of the modern hard standing/tarmac in these two excavation locations, the areas were cleaned by hand in sufficient detail and extent to identify the presence/absence of subsoil archaeological features.
- 4.4 All artefacts and deposits revealed were recorded using the standard AC archaeology pro-forma recording system, comprising written, graphic and digital photographic records, and in accordance with AC archaeology's *General Site Recording Manual*. Site plans were drawn at a scale of 1:50 or at 1:20 if more detail was needed and sections of features and baulk sections at 1:10 or 1:20.

5. METHODOLOGY: MONITORING

- 5.1 Monitoring was undertaken following the methodology outlined within the method statement and subsequent revisions to this document.
- 5.2 The watching brief was 'comprehensive' in accordance with the meaning of the term as defined in the then applicable Institute for Archaeologists' *Standards and Guidance for An Archaeological Watching Brief* (published 1994, revised 2008) Section 3.2.10: *i.e.* present during all relevant groundworks.
- 5.3 The following areas were highlighted for monitoring:
- Temporary connections for the site compound to the existing water and electrical services at the southern end of the car park.
 - *Landscaping within Castle Green grassed area* which included the removal of existing street furniture such as kerbs and lamp-posts that had the potential to disturb 18th/19th-century deposits.
 - *New surfaces and planters within Castle Green and the Castle Hotel car park* which had the potential to disturb 18th/19th century deposits around the edge of the site
 - *Ground reduction within the existing car park and access roads* which had the potential to expose the surface of the former cattle market.
 - *New services within Castle Green and the Castle Hotel car park, with particular reference to cable access chambers, gifas units and slotdrains.* Although a number of the services and fittings had been designed to be incorporated within new or existing surfaces there were a number of locations in which the excavation for slotdrains and their associated siltboxes had the potential to disturb archaeological deposits.
 - *The removal of a lime tree and its root plate on Castle Green* which had the potential to disturb post-medieval deposits.
 - *The creation of the new north entrance to the Museum.*
 - *The relocation of the commemorative stones (the Sword in the Stone and the Sarsen Stone).* There was potential for some impact on late post-medieval archaeological deposits and the reinterred 9th-century burials found in 1943.
 - *The enhancement works adjacent to the moat garden edge and on the approach to the south gate of Taunton Castle* which were considered likely to impact upon late post-medieval archaeological deposits.
 - *Work associated with the construction of the new footbridge* which had the potential to disturb archaeological remains within the area of the moat.

6. RESULTS: EXCAVATION (Figs 2-5)

6.1 The Southern Bridge Abutment (Area 1)

The excavation for the southern bridge abutment comprised an area approximately 9.30m long by 2.55m wide and was located immediately to the south of the boundary wall (structure 2098) on the south side of the moat garden, and to the east of the Winchester Arms public house (Plate 1). Approximately 0.40m of modern paving slabs and curbing and their associated levelling deposits were removed using a mechanical excavator fitted with a toothless bucket under archaeological control. Sealed beneath these modern deposits was a series of post-medieval layers and features. Beneath these and cut by the post-medieval ditches and pits were displaced dump deposits derived from the cleaning and digging of the moat. The upper of these deposits is post-medieval in date and the remainder of these deposits are medieval and re-deposited, containing a large amount of disarticulated human bone from graves which were disturbed when the inner moat was originally constructed. These layers sealed an *in situ* medieval layer, surviving beyond the south edge of the moat, a 'grave earth' deposit as found elsewhere in Castle Green that contained the partial remains of an articulated burial. The post-medieval and medieval deposits and features are described in detail below.

Post-medieval

Following the removal of overlying modern deposits the excavation progressed by the hand excavation of a 4m long by 1m wide sondage directly in front of 19th century wall (structure 2098), which was also reduced to the level of the base of overlying deposits (Plate 2). Almost immediately the hard core layer (2005) of the c. 1880 cattle market surface was revealed in the east end of the sondage (Plate 3) with modern levelling deposits (2001-4) above, which had been cut by several square and circular modern pits (F2024, F2026, F2027, F2029, F2086 and F2111). Layer 2005 was made from tightly-packed sub-angular stones ranging in size from 25mm by 25mm to 75mm by 50mm. This surface was not present across the whole area of the sondage, but overlay a deposit (2018) of orangey-brown slightly sandy silty clay, which was a levelling layer and was also concentrated at the east end of the sondage (and later excavation area) and elsewhere was equivalent to layer (2017) a deposit of dark orangey-brown silty clay; these were up to 0.11m thick and both 2017 and 2018 contained disarticulated human bone. Beneath these deposits several linear features (F2011, F2014, F2015 and F2033) were revealed crossing the trench in a NW-SE direction (Plate 4). These cut layer (2006) which is discussed in detail below.

Gully F2011 measured 0.36m wide by 0.13m deep, and contained a single fill (2010) consisting of dark orangey brown slightly sandy clay. It had been cut by a modern posthole F2007 and pit F2049. There were no finds.

Gully F2014 measured 0.50m wide by 0.10m deep and contained a single fill (2013/2037) of greyish brown silty clay, which contained disarticulated human and animal bone. This ditch was the latest in a sequence of intercutting ditches including F2033, F2047 and F2015.

Ditch F2015 measured up to 1.08m wide by 0.30m deep. It had two fills; the basal fill (2016/2035) consisted of greyish brown silty clay and contained disarticulated human and animal bone. The upper fill (2022) was a darkish brown sandy clay which had been cut by gully F2014 and pits F2047 and F2049.

Ditch F2033 is the earliest of the NW-SE aligned intercutting ditches. It measured 0.60m wide by 0.24m deep with a single fill (2034) of reddish-brown sandy clay. It contained disarticulated human bone.

The gullies and ditches may have provided drainage from the outer ward area into the moat. They had been cut and blocked by the construction of a 19th century boundary wall (structure 2098) located on the outer edge of the moat.

Following the excavation of the linear features the trench was expanded to its ultimate extent, and this was achieved by machine excavation down to former cattle market surface (2005) which was much more extensive to the south of the sondage. The wider trench extended to the south, following the removal of the levelling deposits (2017 and 2018), revealed the continuation of the previously observed linear features and a number of other features consisting mainly of pits and stake holes (Plate 5).

Other pits, postholes and stake holes

Pit F2049 was only partially exposed in plan but had a diameter of at least 3m, but where excavated was only 0.20m deep. It had a single fill (2050) which contained disarticulated human and animal bone and a sherd of medieval pottery that is residual in this context. This pit cuts all of the other linear features – F2011, F2014, F2015, F2033 and F2047.

Pit F2047 was oval with a maximum length of at least 0.85m. It contained a single fill (2048) of darkish brown silty clay which contained disarticulated human and animal bone. This pit cut ditch F2015.

Pit F2029 was not fully revealed in plan as it had been cut by wall 2098. It measured 0.96m long by a maximum of 0.40m wide and was excavated to a depth of 0.30m but not bottomed. It had a fill (2030) of orangey brown sandy clay which contained disarticulated human bone.

Pit F2079 was not fully revealed in plan as it had been cut by wall 2098. It was 0.77m long by a maximum of 0.32m wide and was excavated to a depth of 0.39m. It had a fill (2080) of reddish-brown silty clay which contained a fragment of Beer stone presumed to be a remnant of lime mortar manufacture.

Pit F2031 was originally probably oval in plan with an excavated maximum length of 1.10m and width of 0.52m. It was 0.14m deep and had steep sides, with probably a flat base but this was disturbed by two further pits or postholes (F2067 and F2068). Pit F2031 had a single fill (2032) of reddish-brown silty clay which could not be distinguished from the fills of F2067 and F2068. This fill contained disarticulated human bone. Pit F2067 was oval and measured 0.38m long by 0.28m wide and 0.10m deep with gently sloping sides and a flat base. Pit F2068 was oval and measured 0.40m long by 0.26m wide and 0.20m deep with steep sides and a flat base.

Pit F2094 was sub-square in shape with a maximum length of 0.45m and a depth of 0.44m. It had a fill (2093) of brownish-grey sand and contained disarticulated human bones.

A further probable pit F2096 was revealed but poorly defined as it had been disturbed by modern infrastructure works. It had a greyish-brown sandy clay fill (2095) which contained a tile.

Deposit 2006 was cut by 24 stake holes (F2040, F2042, F2044, F2046, F2052, F2054, F2056, F2058, F2060, F2062, F2064, F2064, F2066, F2071, F2073, F2075, F2077, F2081, F2083, F2088, F2090, F2092, F2103 and F2108) ranging in depth from 0.30m to 0.04m and diameter from 0.17m to 0.06m.

All of the ditches, pits, postholes and stake holes cutting deposit 2006 can perhaps be associated with the later post-medieval use of this area of Castle Green as an open space. Although the linear features may easily be interpreted as an aid to drainage with excess water channelled into the remains of the moat, the pits, with few finds, and the postholes and stake holes are not easy to interpret in the relatively small area of the excavation.

Deposit (2006) was exposed within the whole of the Area 1 excavation and contained abundant disarticulated human bone. It was initially thought by the excavators that it was

deposited in this area during the construction of the castle moat, resulting in a mixture of redeposited natural clay, early medieval subsoil and the fill of disturbed graves. However a piece of stem from a clay tobacco pipe and a sherd of 17th-century pottery indicate that this deposit is post-medieval in date and may relate to the refurbishing of the ditch during the Civil War. In general, it was up to 0.43m thick and consisted of bright reddish-orange slightly silty clay.

Medieval

The post-medieval cut features had penetrated early post-medieval and medieval deposits (2006, 2019 and 2020) that are rich in disarticulated human and animal bone. These deposits were undoubtedly derived from the digging of the moat surrounding the castle's inner ward, the process of which almost certainly disturbed burials from the minster graveyard.

Deposit (2019) consisted of bright bluish-grey shale. It was present across the whole trench except where cut by later features, and was most abundant at the west end of the trench where it was 0.15m thick. The deposit probably derived from the digging of the moat for the inner ward, and may represent a localised shale facies within the natural mudstone geology.

Deposit (2020) consisted of pale greyish brown sandy clay covering the whole extent of the trench. This is similar to (2115), early medieval soil, although (2020) contains abundant disarticulated human bone, whereas the underlying deposit (2115) contained an articulated burial. The majority of the medieval Saxo-Norman pottery was derived from this layer. This indicates that (2020) is a layer of redeposited Anglo-Saxon soil, most likely redeposited during the construction of the moat, like deposits (2019) and (2097) above it, with the latter containing disarticulated human bone and two sherds of medieval pottery.

Skeleton 2099 was embedded in deposit 2115, but the cut for the grave was difficult to discern (Fig. 5b; Plate 6). The full extent of the skeleton was not established as the bottom of the excavation had been reached and parts of this skeleton have been left *in situ*. However, part of the skeleton has probably been removed by post-medieval pit F2049 which cuts it on the southern side. A radiocarbon date of 976-1152 cal AD (at 95% probability, SUERC-58643) has been assayed from the bone which indicates that the inhumation was made in the known early medieval cemetery on the site.

6.2 The car park of the Castle Hotel (Area 3) (Fig. 2)

An area of approximately 5.8m by 0.6m was stripped of the tarmac car park surface (2403) for the purpose of creating a new gully for drainage and the laying of a new drain pipe (Plates 7 and 8). The deposits were excavated to a maximum depth of 0.95m and only modern (2400, 2401, 2402 and 2407) and post-medieval levelling layers (2404, 2405) were exposed. A deposit (2406) of dark reddish brown clay revealed in patches may represent the remains of material derived from the construction of the moat as it is similar to (2006) in Area 1. It did not, however, contain disarticulated human bones or any other finds. No finds were recovered from the excavation in Area 3.

7. RESULTS: MONITORING (Figs 2, 6-9)

7.1 Temporary connections to the site compound

Excavations were carried out in areas around existing water and electricity connections and drains in order to locate suitable connection points for the site compound. A small area of the former 19th/20th century cattle market surface was exposed during the excavation for the water connection, but otherwise there was very little impact upon buried deposits as they were concentrated in areas that had previously been disturbed by these services.

7.2 Landscaping within Castle Green grassed area

Following the removal of topsoil on Castle Green a compacted post-medieval levelling deposit containing fragments of brick and mortar was exposed. This was present across the whole of the area and most likely formed the base for a former 20th-century car park surface.

7.3 New surfaces and planters within Castle Green and the Castle Hotel car park

The planters along the northwest edge of the car park were dismantled and their footings partially removed which involved excavations to a maximum depth of 0.35m revealing modern levelling deposits. No archaeological features or deposits were exposed.

7.4 Ground reduction within the existing car park and access roads

The ground reduction in the existing Castle Green car park was monitored in several phases and in all cases this was a shallow operation and did not penetrate below late post-medieval levelling deposits. A large area in front of the Castle Green Inn public house and elsewhere revealed the well-preserved brick paving related to the former cattle market (Plates 9 and 10). It was possible to leave much of this in situ with the new surface made up from this level. Elsewhere the paving was removed and the new surface constructed on top of the hardcore present beneath the paving. In the area of ground reduction to the east of the Winchester Arms the deposits had been heavily disturbed by modern services.

7.5 New services within Castle Green and the Castle Hotel car park, with particular reference to cable access chambers, gifa units and slotdrains

Slotdrain and associated works on the south side of Castle Green

The monitoring of the excavation to the depth of 0.53m of a 1m wide slotdrain running east-west for a distance of 29.50m on the southern side of Castle Green revealed modern and late post-medieval levelling deposits to a depth of approximately 0.40m below ground surface. At this depth, and where not disturbed by modern services, a greyish brown sandy clay containing common small fragments of slate and occasional crushed oyster shell and charcoal was present across the length of the trench except at the western end where, at a similar depth, a deposit was exposed similar to redeposited early medieval subsoil (2006) containing occasional small fragments of bone.

Slotdrain and associated works to the north of the former grammar school

An east-west aligned slotdrain at the southern edge of the car park, located in front of the former grammar school, also revealed a deposit similar to 2006 at its western end and at a depth of 0.55m below ground surface (Fig. 6). At the far western end the top of a possible mortared stone wall (2256) was partially revealed, but excavation stopped at this point and it was not possible to characterise the feature, although it is probably later post-medieval in date since it abuts the cattle market surface which did not appear to continue west of this point. At the east end of the slotdrain trench was a north-south aligned stone wall (2262). It was 0.92m wide and survived to a height of 0.60m and was constructed of blocks of slate bonded by light yellow sandy mortar (Plate 11). It had been constructed within a deposit (2263) which was post-medieval in date.

Slotdrain and associated works on the east side of the Winchester Arms

A north-south aligned slotdrain trench was excavated running parallel to the east side of the Winchester Arms public house (Fig. 7). This trench was excavated to a depth of 0.60m and where not disturbed by modern services a fairly uniform deposit of greyish and reddish brown sandy clay (2411), measuring 0.28m thick, was exposed. At the southern end of the trench a small patch of cobbles (2412) was present below this layer. They were laid into the top of deposit (2006) that contained occasional fragments of bone.

To the east of this slotdrain a pre-existing drain was exposed to join with the slotdrain (Plate 12). The excavation around the pre-existing drain revealed the remains of four discrete

skeletons (SK2224, SK2228, SK2231 and SK2234) at a depth of 0.65m below ground surface (Fig. 8; Plate 13). Although some articulation was present, in all skeletons except SK2224, the remains had been disturbed by the previous drain excavation and probably by other unidentified previous activities, although they retained an east-west alignment. All the skeletons had been deposited in a matrix (2238) of light yellowish grey sandy clay with inclusions of brick and mortar. The cuts for graves were difficult to discern and the layer (2237) which covered the skeletons, and contained disarticulated human bones, was difficult to distinguish from 2238. However, the collection of bones for juvenile SK2224 was associated with a coffin nail, and it may be that this was a re-interment of a disturbed burial.

Slotdrain and associated works on the west side of the car park

A northeast-southwest aligned slotdrain trench was excavated in the northwest corner of the former car park to a depth of 0.55m. For the majority of this trench only modern hardcore was removed, but this exposed a deposit similar to 2006 at its base. At the northeast end of the trench a late post-medieval northwest-southeast aligned stone wall (2414) was exposed. A trench for a siltbox at the northeast end of the slotdrain trench was dug a further 0.40m into 2006 and occasional small fragments of human bone were recovered.

A cable access pit was excavated on the western side of the car park adjacent to the bus stops. It measured 1.50m x 1.50m (Fig. 9). A deposit (2308) consisting of reddish-brown clay was exposed at a depth of 0.75m and contained animal bone and a sherd of medieval pottery. This appears to be an undisturbed medieval deposit, but did not contain any human bone, that had been heavily disturbed by modern services and the laying of the existing surface.

Slotdrain and associated works on the east side of the car park

A north-south aligned slotdrain trench was excavated on the east side of the former car park. The brick paved surface of the former cattle market was exposed along the full length of the trench and was recorded and then removed. An east-west aligned post-medieval wall (2254) which is abutted by the cattle market paving was exposed in an area central to the trench. A small building with an east-west aligned north wall in a similar position is shown on John Wood's map of 1840.

7.6 The removal of lime tree and root plate on Castle Green

On the removal of the tree only a very compact modern levelling layer was revealed.

7.7 The creation of the new north entrance and works to the museum grounds

Two pits were excavated to support pillars for a porch at the new north entrance to the Somerset County Museum. The pit for the eastern pillar was excavated to a depth 0.80m and that for the western to 0.65m. In both cases levelling layers containing fragments of brick and mortar were found to the base of excavation. No finds were recovered. Trenches excavated for lighting ducts on the north, north-west and south sides of the museum were also monitored. These were dug to a maximum depth of 0.40m and revealed similar deposits to those found in the entrance porch pillar holes. No finds were recovered except for late post-medieval (post-1800) finds from the lighting duct trench adjacent to the path to the north-west of the museum (context 2309). Further monitoring of groundworks for new paving which required stripping to a depth of 0.20m to the north of the new museum entrance revealed no deposits or finds of archaeological interest.

7.8 The relocation of the commemorative stones

Little ground was disturbed during the lifting of the sarsen stone prior to its relocation. The trench for its new position of the sarsen stone was excavated only to a depth of 0.20m removing only turf and topsoil. The sword in the stone was found on removal to not penetrate below the topsoil, however during its removal the top of the post-medieval levelling layers observed elsewhere were exposed. The new location for the sword in the stone monument, to

the northwest of the museum, required only the removal of topsoil 1.4m x 1.1m x 0.3m and did not disturb intact archaeological deposits.

7.9 The enhancement works adjacent to the moat garden edge and the approach to the south gate of Taunton Castle

The stripping of the roadway approaching the south gate exposed only late post-medieval deposits including a short section of northwest-southeast aligned stone wall (2282) measuring 2.1m long and 1m wide. It is difficult to associate this with any known structure and it may have been a structural support for the former roadway.

The stone wall to the south of the moat garden (context number 2098 in Excavation Area 1) was demolished to ground level. It was approximately 0.75m high and 0.50m wide and was bonded in a reddish-brown silty clay.

A series of 15 pits were excavated for lamp uprighters beneath the museum wall. These were a maximum of 0.40m deep and revealed only post-medieval deposits. Finds collected from these deposits were bagged together under the context number 2296.

7.10 Works associated with the construction of the new footbridge

Topsoil stripping, the moving of an electricity cable and the piling and pile cap excavations were monitored. The area for the new footbridge crossed the area of the inner moat (Plate 14). Late post-medieval and modern deposits were exposed containing abundant brick and mortar fragments up to a depth of 0.70m below ground surface in the areas stripped (contexts in this area are numbered 2200-2222). Central to the stripped area a short length of late post-medieval stone wall 1.75m long and 0.50m wide was exposed (2413). It was constructed using a greyish yellow lime mortar containing fragments of slate, brick, tile and charcoal. The pilings, which were 0.45m in diameter, indicated that the depth of post-medieval deposits to the base of the moat ranges from 5.5m to 6.5m matching previous borehole data (Passmore 2010). Piling holes within the central section of the bridge (Piles 1, 3 and 11) indicated that waterlogged deposits are present at the base of the moat. Piles 9 and 12, the southernmost pile cap prior to the south abutment, encountered the natural at approximately 4m indicating that the edge of the moat was present in this area. Piling in the area of the southern abutment (Piles 13-18) showed that the natural was present at 2.50m, above which the early medieval subsoil (2115) survived to a thickness of approximately 0.50m thick. Excavation for the pile cap (5) above piles 9 and 12 exposed a stone wall (2218) constructed of large sandstone blocks bonded by dark reddish-brown sandy mortar. The wall was constructed within late post-medieval deposits and the top of the wall was approximately 1.50m below the ground surface as existed prior to stripping and digging for the bridge works.

7.11 Digging of ducting trenches in Castle Bow

The digging of ducting trenches within Castle Bow was restricted to a depth of 0.3m which entailed only the removal of the current cobble surface and its levelling deposits. No archaeological features or deposits were observed.

8. THE FINDS *by John Allan and Naomi Payne*

All finds recovered on site during the evaluation were retained, cleaned and marked where appropriate. The assemblage consists of a small quantity of medieval pottery, an assemblage of post-medieval pottery, clay tobacco pipe, ceramic building material, glass and a small number of other finds, and a collection of human remains.

8.1 Medieval pottery

Five contexts produced a total of 14 (158g) Saxo-Norman coarseware sherds, the principal collection (9 sherds) being from context (2020), which is interpreted as a layer of redeposited

early medieval soil, most likely laid down during the construction of the medieval castle moat. Context (2020) also contained the majority of the disarticulated human bone. There are two further medieval sherds from context (2097), also apparently redeposited during the digging of the moat, and a single rim sherd from an *in situ* medieval layer (2308). The other medieval sherds were residual, one in the fill (2050) of a post-medieval pit, and the other in a layer (2006). The medieval pottery is a mix of conventional Upper Greensand-Derived pottery and its variant, commonly found in Taunton, which has calcareous inclusions. These could be of pre-Conquest date but the group is not diagnostic enough to be certain. The rim sherd from context (2020) is from a handled vessel of late 10th- to early 12th-century date.

8.2 Post-medieval pottery

There is no later medieval pottery at all and only four sherds (111g) of 16th-century material, all residual in later contexts. Just over 90% of the assemblage (169 sherds; 3733g) dates from the late 17th to the early 19th century. The 17th-century Portuguese faience sherd is an exceptional find in Somerset, and probably the first known example from the county, although there is a scatter of similar pieces from the main ports of South West England, especially Bristol, Plymouth and Exeter. Deposit (2006) was originally thought by the excavators to be associated with moat construction, but it contained a single 17th-century South Somerset sherd and a clay pipe stem, indicating that it must have been deposited at a later date, perhaps in the course of work on the moat during the Civil War.

8.3 Clay tobacco pipe

108 clay pipe fragments (439g) were recovered. This included 88 stems, 4 mouthpieces and 16 bowl fragments. The diagnostic pieces are dominated by late 17th/early 18th-century pipes from Taunton, including the makers William Hunt of Taunton, George Webb of Chard and 'EC' of Taunton and Chard.

8.4 Ceramic building material

In total, 30 fragments of post-medieval ceramic building material (1482g) were recovered, including nine pieces of brick (not more closely datable than post-1650), 17 fragments of red tile of 18th to 19th century date (15 flat tiles, 1 pantile and 1 knibbed tile) and four glazed ridge tile fragments (16th to early 18th century).

8.5 Glass

A total of 22 sherd of glass (554g) was recovered. The most interesting item is a small, fine, transparent body fragment of *façon de Venise* glass, probably from a late 16th- to 17th-century wine glass, found in an 18th/19th-century context directly beneath cattle market surface (2278). Most of the remaining material (19 sherds) consists of English green bottle glass; where the forms are discernible they are mainly from broad squat 'onion' bottles dating from the later 17th or early 18th century. A small piece of window glass of 17th/18th-century date was also noted.

8.6 Other finds

The other finds included small quantities of shell, mortar, slag, charcoal and worked flint/chert. 10 pieces of shell (230g) were recovered including nine oyster shell fragments and one cockle. All were from post-medieval contexts. Eight pieces of mortar (2108g) were retrieved from six contexts, including four small fragments in association with skeletons SK2099 (one piece), SK2224 (two) and SK2228 (one). A small piece of charcoal (<1g) associated with SK2224 was also recovered. Another small mortar fragment came from a medieval context (2020), the redeposited layer thought to be associated with the construction of the castle moat. The other contexts containing mortar (2006 and 2218) were post-medieval in date. The piece of apparently worked Beer stone (191g) from context 2080 has not been deliberately shaped but was utilised in the process of making mortar. Slag was recovered from four contexts. The eight fragments (107g) from medieval contexts (2020 and 2308) are all undiagnostic iron working slags. A single small fragment (1g) of clinker was found in context (2006), a post-medieval layer, and a piece of possible fuel ash slag (28g) came from context (2093), the fill of a

possible post-medieval pit. The small lithic assemblage comprised six pieces of worked chert and flint (24g) including four chert waste flakes, one chert blade and one broken flint blade.

9. HUMAN SKELETAL REMAINS *by Kate Brayne*

9.1 Introduction

The majority of the assemblage consists of disarticulated bone from redeposited contexts. Only five skeletons could be regarded as articulated. The disarticulated bone and the skeletons are described separately below.

9.2 The disarticulated bone

It is not possible to analyse disarticulated human remains in the same way as entire or partial skeletons, because an accurate determination of age at death, sex, stature and most pathological conditions depends on the assessment of multiple elements of a skeleton. For example, most adult skeletons display a combination of male and female characteristics, and determination of sex for an individual is based on which sexual features are in the majority. Equally, in order to accurately age a skeleton, several features need to be studied. However, with an assemblage of disarticulated bone, it is not possible to study multiple elements from one individual. Therefore, the first priority is to determine the minimum number of individuals (MNI) that are present in the assemblage. This is the smallest number of individuals that is required to account for the skeletal elements present in the total skeletal assemblage. The MNI is calculated by determining the most frequently represented skeletal element for each age/sex class. The entire disarticulated assemblage is examined, and each individual bone or bone element (for example, the proximal or distal epiphysis of a long bone) is recorded, including which side it comes from, together (where possible) with the estimated age of the individual, and also the sex (although this is only usually possible with bones from the skull and pelvis, which are the most sexually dimorphic elements of the skeleton). The database of individual bones is then sorted on a combination of anatomical elements, side, age and sex so that identical elements (i.e. those that must be derived from different individuals) appear as adjacent records in the data set. Then, the maximum number of identical elements is determined for each age/sex category, and this is the minimum number of individuals which would account for all of the bones in that age/sex category. For example, if 10 right distal femurs, all of an adult size, were present, then there must have been at least 10 adult skeletons whose disturbed bones made up that disarticulated assemblage. When all the data has been sorted, the minimum number of individuals for each age/sex category can be calculated by identifying which skeletal element is represented most often. The highest number of identical skeletal elements is the MNI skeletons whose bones make up the disarticulated assemblage.

MNI

Calculation of MNI can be done for an entire site, or for individual contexts. In this instance, it was decided that a MNI for all the disarticulated bone on the site was the most useful calculation, because it was not possible to determine whether or not the human bone from individual contexts was disturbed and re-deposited bone from the same graves or whether it derived from different areas of the original Saxon cemetery. If MNI is calculated for each individual context then the number of individuals will be inflated. Because it was not possible to establish whether the disarticulated bone from each context on this site did derive from different graves, it was better to assume that it may have come from the same individual skeletons.

The minimum number of individuals from each age category in the disarticulated human bone assemblage from Taunton Castle is as follows:

1 neonate (aged birth – 1 year)
2 infants (aged 1 – 5 years)
3 children (aged 6 – 11 years)
2 juveniles (aged 12 – 17 years)
2 young adults (aged 18 – 29 years)
1 prime adult (aged 30 – 45 years)
5 mature adults (aged 45 – 85+ years)
14 adults of indeterminate age

When calculating the overall MNI for this site it is necessary to add the number of individuals from each category under the age of 18 because the size of the bones makes it possible to identify without doubt that they come from different individuals. Therefore, it can be stated that there are at least eight babies, children and juveniles in this assemblage. However, it is not possible to establish whether the 14 adults of indeterminate age are distinct from the 8 adults of determined age, because the skeletal elements which were used to determine the minimum number of individuals from these age groups were different. The skeletal elements from which it was possible to determine adult age all included intact dentition – either partial or complete mandibles and maxillae. This is because analysis of wear on the teeth is the standard method of assessing age at death in adults. However, the skeletal elements present in maximum quantities from which the MNI of adults was calculated, were all long bone epiphyses, from which it is not possible to establish adult age at death. Therefore, it is necessary to say that in this assemblage there are a minimum of 14 adults, of which at least two were young adults, at least one was in the prime of life, and at least five were aged 45+. It is interesting to note that a MNI of 14 turned up several times – in the number of right distal humeri and whole humeri, in the number of left iliae (part of the pelvis) and left acetabulum (the hip joint); in the number of right iliae, and in the number of left distal tibiae and whole tibiae. This may be coincidental, or it may indicate that this assemblage really does derive from fourteen adult graves.

Pathology

The most common palaeopathological lesions identified in this assemblage were caused by tooth decay, known as dental caries. This is typical of any assemblage of human dentition. Caries are caused by bacteria in the mouth metabolizing sugars, resulting in the production of an acid which causes the demineralization of tooth enamel, and eventual production of cavities in the tooth. The two most significant factors in the presence of caries are consumption of sugars (including honey) combined with inadequate dental hygiene. If there are multiple sites of tooth decay in one dental arcade, this is known as rampant caries (caries present on numerous teeth in both usual and unusual locations). This can be associated with reduced salivary gland function, as well as with significant sugar intake in the diet. It is also possible that those individuals who suffered multiple antemortem tooth loss, but display no evidence for periodontal disease (see below), may also have suffered rampant caries, resulting in exfoliation of affected teeth.

Tooth decay can sometimes progress to create a periapical abscess, which is a focus of bacterial infection at the apex of a tooth root, causing pus to accumulate which may drain out through a hole in the bone cortex. The bacterial infection can invade the tooth apex through the cavity created by a caries, but it can also sometimes derive from bacterial plaque (see below). If the infection spreads from the abscess in the blood stream, meningitis and haematogenous osteomyelitis can develop; both of these conditions can be fatal.

A total of thirteen individual elements (partial or complete mandibles and maxillae) presented with either single or multiple caries, periapical abscess, or significant antemortem tooth loss. It is interesting that in this assemblage the majority of dental arcades did not present with caries. A total of thirteen elements out of a total of 41 dental elements which were present in the assemblage (not including individual teeth) represents roughly 31%. This suggests either that

dental hygiene was very good in this population, or that they did not consume much sweetened food.

It is also interesting to note that this population does not appear to have had high levels of periodontal disease. Periodontal disease is a term used to describe inflammatory changes in the alveolar bone of the gums, caused by accumulation of mineralized bacterial plaque (“*calculus*”) on the teeth when oral hygiene is inadequate. Eventually, the alveolar bone begins to recede and the teeth loosen in their sockets and ultimately are lost. Periodontal disease is one of the most common dental diseases in both modern and archaeological populations, and a major cause of tooth loss in individuals aged 40+ (Roberts and Manchester 1995).

Although most of the mature adult dentition in this assemblage showed some mineralized plaque deposits, as would be expected, there were no individuals with pronounced periodontal disease. Most of the mature adult dentition displayed limited deposits of calculus on the buccal and lingual alveolar margins of the teeth, which would be expected in any population, but no individuals in this assemblage presented with profuse accumulations of calculus. Of the dental arcades which displayed high levels of antemortem tooth loss, there was no clear indication that this tooth loss was caused by periodontal disease – rather the tooth loss appears to be equally related to dental caries.

Enamel hypoplasia is a defect in enamel matrix formation caused by severe nutritional deficiency or disease, usually during the first few years of life, when the permanent teeth are forming. If enamel hypoplasia is present in the deciduous teeth this indicates that the stress occurred when the child was *in utero*, owing, for example, to maternal rubella infection or congenital syphilis. Enamel hypoplasia appears as either one or many grooves on the sides of the crowns of the teeth. It is often associated with childhood diseases which are accompanied by high fevers – measles is a common example. Depending on which teeth are affected by hypoplastic defects, and the location of the defect on the individual tooth, it is sometimes possible to establish at what age the episode which created the hypoplastic defect occurred. Enamel hypoplasia is commonly found in archaeological populations, because without antibiotics there were far more incidences of serious childhood bacterial infections. Additionally, food supplies were less predictable, and episodes of malnutrition would have been more common than in the modern developed world. Within this assemblage only one mandible, of a young adult male, displayed numerous pronounced hypoplastic defects of the tooth enamel. There were occasional examples of minor hypoplastic defects on other dental elements and loose teeth, but this was not a commonly presented pathological condition. This may suggest that the population from which this assemblage derived was not routinely affected by malnutrition or severe diseases of childhood.

In summary, this population appears to have eaten limited amounts of sweetened food, and to have practised good techniques of dental hygiene. They do appear to have eaten coarse bread – in general the extent of natural attrition of the crowns of the teeth was very pronounced.

Trauma

Apart from dental pathologies, the most common pathological lesions identified in this assemblage were caused by trauma. Trauma can be defined as any bodily injury or wound (Roberts and Manchester 1995). Traumatic injuries can include both fractures and dislocations. Fractured bones are one of the most common pathological conditions found in skeletal assemblages. Although it is possible to identify at what stage in the healing process of any fractured bone an individual died, if a bone is fully healed, it is not possible to determine how long *ante mortem* the fracture was sustained. There are three major causes of fractures: acute injury (in the form of accidental injury or intentional violence), underlying disease (in which case a fracture is termed “pathological”), and repeated stress (Roberts and Manchester 1995).

One of the problems of analysing disarticulated bone is that individual bones which show evidence of trauma cannot be related to other skeletal elements in order to give a clearer picture of the nature of the lesion. Frequently it is only the element of the bone which includes the fracture which survives, so there is not even an entire bone to examine, or the articulating joint. Therefore, it is only possible to describe the lesion, without being able to supply any further information.

A total of four bones showing signs of possible traumatic injury were identified in this assemblage:

- A 12th right rib fused onto the right transverse process of the 12th thoracic vertebra. This may be a congenital abnormality rather than the result of a trauma.
- One remodelled right glenoid cavity of the scapula – the bone contour was remodelled and extended with osteophyte growth around the inferior margins. This may reflect a stable joint following a dislocation or fracture to the head of the humerus.
- One right first metacarpal with trauma to the distal epiphysis, which appears to have been flattened and displaced laterally. The distal joint has been remodelled with osteophyte growth around margins. Subsequently both articulations of the bone have been affected by degenerative joint disease, evidenced by eburnation, which is present on both the distal and proximal articular surfaces. This suggests that multiple bones on this hand may have been subject to trauma.
- One left distal radius with a healed fracture, and remodelling of the bone shaft.

With a disarticulated assemblage of this nature it is not possible to draw any conclusions about patterns of traumatic injury in this population from these isolated examples.

Mastoiditis

There is one adult right temporal bone which presents with an erosive lesion which may be caused by osteomyelitis of the mastoid process. In the days before antibiotics osteomyelitis, (which is the result of the introduction of pyrogenic bacteria into bone – usually staphylococcus aureus or streptococcus) was a common problem. Mastoiditis is the consequence of an ear infection, following which bacteria have spread from the soft tissue into the adjacent bone of the mastoid process. In this case the osteomyelitis presents as an erosive lesion (a sequestrum) on the mastoid process which has smooth, sclerotic edges and some associated periosteal bone formation on the adjacent auditory meatus. There is no evidence of active periosteal bone formation around the sequestrum, so this may be a healed lesion. It is probable that this individual was affected by severe pain during the active stage of this infection.

There is a second adult male skull which presents with a lesion of the right auditory meatus. The auditory meatus is sealed by new periosteal bone, apart from two erosive lesions, which may represent sequestra from which pus may have drained. This lesion may have been caused by a longstanding bacterial inner ear infection. It is possible that as a consequence of this infection and reactive bone deposition, the individual's hearing in this ear was adversely affected.

9.3 Skeletons

Methodology

Recording

Each skeleton was laid out individually with the bones in anatomical position in order to be studied. Information was recorded on a purpose-built Microsoft Access database. Each individual was assessed for sex, age, stature, pathology and morphological anomalies.

Estimation of Sex

The sex of individual skeletons is assigned according to morphological criteria: in particular by assessing features of the pelvis and skull, which display the most sexual dimorphism in humans. However, owing to the poor state of preservation of these inhumations, insufficient sexually dimorphic features were preserved to assign a firm sex to any individual.

Estimation of Age at Death

A variety of criteria are employed to assign age-at-death to individuals. Wherever possible, age is estimated using a combination of factors, in order to minimize inaccuracy. The accuracy of adult age estimation depends largely on the completeness and extent of preservation of the individual skeleton. As a general rule, the younger an individual was at death, the more possible it is to assign a precise age. Senile adults are particularly difficult to age with any precision, and it is probable that, in general, aged individuals are consistently underaged in osteological reports.

It is possible to age juveniles fairly precisely using a combination of dental development, diaphyseal length of long bones and degree of epiphyseal fusion (Sundick 1978). Subadults can be aged using dental development and extent of epiphyseal fusion (Brothwell 1981). Once all the epiphyses have fused (at approximately 28 years) age estimation is possible by assessing the degree of dental attrition (Lovejoy 1985); identifying morphological characteristics of the pubic symphyses (Katz and Suchey 1986) and, to a lesser extent, by examining the degree of fusion of the cranial sutures (Meindl and Lovejoy 1985), although this technique has been criticized as there is considerable variation between individuals.

Estimation of Stature

The living stature of individuals can be estimated by taking measurements of the maximum length of the long bones, then applying these to the formulae calculated by Trotter and Gleaser (1952).

There are some limitations to this technique. The epiphyses of the long bones must be fused, eliminating the possibility of estimating the stature of subadults. Long bone epiphyses begin to fuse at around 16 years (Brothwell 1981), and after this age stature estimates are feasible. In order to make an accurate estimate of stature as many long bones must be measured as possible. Personally, I do not feel that an accurate stature estimate can be made from a single bone. Incomplete bones cannot be used.

Morphological Anomalies

Morphological anomalies are developmental defects which are not considered pathological.

Results

Skeleton 2099

Skeleton 2099 was orientated NE-SW. The right arm was truncated by a post-medieval pit which cut through the southern edge of the grave. Only the left arm, skull and some ribs, vertebrae, pelvis were recovered from this skeleton. Further bones were left *in situ* because they were lying below the lower limit of the excavation.

The bone is in good condition. Approximately 35% of the skeleton is represented in the excavated remains.

Using sexually diamorphic features of the skull and pelvis, it was possible to determine that this individual was female.

It was possible to estimate the age at death by analysis of the pubic symphysis using the Suchey Brookes system. This appeared to be at stage 4, which represents an age at death in the range 27–49. The dentition showed high levels of attrition, representing Lovejoy's Attritional Ageing Scheme Stage H, which is usually in the age range 40 – 50. However, if the molars were lost early then there would have been additional wear on the anterior teeth, which would affect the apparent age at death. It is therefore probable that this individual was closer to 40 than 50 when she died.

Pathologies

There is evidence for degenerative joint disease in the upper 6 thoracic vertebrae. There is erosive lytic pitting on both right and left superior and inferior articular surfaces and remodelling of the joint contour with marginal osteophyte formation. There is no evidence for degeneration of the surfaces of the vertebral bodies. However, when the six vertebrae are articulated, it is apparent that they are deviated laterally from the normal alignment – a condition known as scoliosis. There are also erosive lesions on the transverse articular surfaces of these vertebrae, which articulate with the ribs, and on the articulations on the corresponding ribs. Unfortunately, because this skeleton is incomplete it is not possible to identify the cause of this scoliosis, or the consequent degenerative joint disease. Scoliosis can sometimes be a consequence of trauma to one of the lower vertebrae, which causes the alignment of the whole vertebral column to be affected. It can also be a congenital condition. The degenerative lesions on the joints indicate that this individual still had movement in her torso, but her mobility may have been affected, and she may have been affected by pain and stiffness.

Dental Pathologies

This individual presented with antemortem tooth loss of all three left upper molars, and evidence for a large periapical abscess at the cavity for the right upper 1st molar (the rest of the maxilla was not recovered). The lower 2nd right premolar and 1st and 2nd molars also appear to have been lost antemortem, as was the lower left 1st premolar, and possibly the lower left 1st molar. There is a large caries on the buccal aspect of the crown of the lower right 3rd molar, and on the buccal aspect of the lower left 2nd molar, as well as on the root of the left canine at the level of the alveolar margin. This evidence of rampant caries indicates that this individual may have been affected by reduced levels of saliva, which can guard against caries formation. Reduced saliva is symptomatic of other disease conditions. Alternatively, this individual may just have eaten a diet rich in sweetened foods. The maxillary dentition also presented with profuse deposition of mineral calculus, which may reflect poor dental hygiene, or again, reduced levels of saliva. There are no calculus deposits on the mandibular dentition.

Skeleton 2224

Skeleton 2224 was recovered as a disarticulated collection of bones, which were excavated from a context which was interpreted as a coffin because an iron coffin nail was identified.

The bone is in poor condition. About 10% of the skeleton is represented.

It was possible to estimate the age at death by the dentition, which indicates an age of about 6 years. Both of the deciduous molars are still present, but there is a cavity in the alveolar bone where the unerupted permanent molar was present.

It is not possible to establish the sex of children of this age, because the sexually dimorphic features of the skeleton have not yet developed. It is not possible to determine the stature of this individual, because stature cannot be calculated for unfused bones. No pathological lesions or morphological anomalies were identified on the post cranial skeleton.

Skeleton 2228

Skeleton 2228 was lying in a supine position orientated east-west with the head to the west. The grave was truncated by an *in situ* Victorian drainage pipe, and most of the skeleton was

directly below this pipe, and could not be excavated. Therefore, the only part of the skeleton to be recovered was the left shoulder, arm and hand, the left ribs, the left pelvis and a limited number of vertebrae.

The recovered bone is in moderately good condition. About 15% of the skeleton is represented.

Although only a limited number of skeletal elements are present, features of the left pelvis, and the general gracile nature of the bones suggest that this individual was probably female.

Examination of the sternal end of the 4th left rib indicates that this individual was approximately 43–58 years old.

It was not possible to estimate stature.

No pathological lesions or morphological anomalies were identified.

Skeleton 2231

Skeleton 2231 was orientated east-west, lying in a supine position. Only the right upper body was recovered, because the grave was truncated by an *in situ* Victorian drainage pipe. In addition to the articulated skeleton, a disarticulated adult radius and ulna, and a disarticulated infant radius and 2 ulnae were also recovered. It is possible that these disarticulated bones derived from adjacent graves, which had been disturbed when the Victorian pipe trench was dug, and the bones were re-interred into the grave with skeleton 2231.

The bone was in moderately good condition. About 20% of the skeleton is represented.

This individual was a child, aged about 7-8. This age estimate is based on dental development – the first permanent molar was fully erupted, and the 2nd right permanent premolar and molar were present in the alveolar bone, but not yet erupted. It is not possible to establish the sex of children of this age, because the sexually dimorphic features of the skeleton have not yet developed. It is not possible to determine the stature of this individual, because stature cannot be calculated for unfused bones. No pathological lesions or morphological anomalies were identified on the post cranial skeleton. The 1st right molar displayed profuse deposition of calculus on the lingual margin of the tooth crown.

Skeleton 2234

Skeleton 2234 was orientated east-west, lying in an extended position. Only the left and right lower legs, and the proximal right femur were excavated.

This individual was an adult, of undetermined sex and age. It was not possible to estimate stature and no pathological lesions or morphological anomalies were identified.

10. RADIOCARBON DATING (Appendix 1)

- 10.1** The dating of the early medieval cemetery was seen as a priority in relation to the outcomes of the project. Unfortunately only skeleton 2099 from Excavation Area 1 could be regarded as undisturbed and a reliable source for a radiocarbon date. A sample of bone was selected as suitable and submitted to the Scottish Universities Environmental Research Centre.
- 10.2** The AMS radiocarbon date result is given in Table 1, and the calibration plot is included as appendix 1. Calibration of the result has been performed using the data set published by Reimer *et al.* (2013) and performed using the program OxCal4 (on-line at: c14.arch.ox.ac.uk).

Material	Context	Lab no.	Result BP	$\delta^{13}\text{C}$ (‰)	Cal AD (68.2%)	Cal AD (95.4%)
Bone: Human	Skeleton SK2099	SUERC-58643	1006±31	-20.2	989-1039	976-1152

Table 1: Radiocarbon dating results

- 10.3** The calibrated result at 95.4% probability indicates a Late Saxon to Norman date for the burial. The date conforms with the previous dates for human remains on the site and are related to the known early medieval cemetery.

11. DISCUSSION

- 11.1** The archaeological works revealed that in general the former cattle market surface is well-preserved beneath the modern make up levels. Beneath this evidence indicates that the Anglo-Saxon graveyard is largely disturbed by later activities, with the majority of the human bone found in residual contexts. Characterising this later activity has been problematic but mostly must relate to the construction of, and modifications to, the castle. In excavation Area 1 the evidence indicates that the moat was cleaned out at a late date, perhaps during the English Civil War.

- 11.2** The evidence for the Anglo-Saxon graveyard has not changed previous estimates of its bounds (Manning 2008, fig. 4), with the majority of the area of the outer bailey containing, mostly disturbed, human remains. Assuming that all of the human remains derive from the early medieval cemetery then the osteological analysis indicates that access to burial on this site was to all ages and both sexes. Dental hygiene was generally good. The graveyard soil was mostly found redeposited, usually with disarticulated human remains, in nearly all of the areas of the Castle Green south of the inner moat where excavations were greater than 0.55m below ground surface, except on the southernmost side of Castle Green where it was exposed at 0.40m below ground surface. The Saxo-Norman pottery from these layers is not diagnostic enough to provide tight dating, but should predate the early 12th century when construction of the castle probably began (Webster forthcoming). The dating of skeleton SK2099 to cal. AD 976-1152 falls within the extremes of the previous dates that indicate that the cemetery was in use over an extended period of time from the 10th century to the 12th century (Clements 1984; Passmore 2011; Webster forthcoming). The imposition of the castle and the deconsecration of the burial ground appears to be archaeologically-speaking a rapid process.

- 11.3** The later medieval and post-medieval use of the Outer Bailey, in the area of the majority of works related to the Castle Green Enhancement Project, is difficult to characterise. The small areas exposed showed evidence for a great deal of disturbance and only in the location of the south bridge abutment (Area 1), were discrete features exposed indicating a great deal of activity in the outer lip of the moat in the 16th century and later. Some of this may be related to historically-known events, such as the English Civil War, but the archaeological signature is not distinct enough to provided conclusive evidence for this.

- 11.4** The former cattle market is well-preserved in parts. In the area of the car park to the south of the site a large enough area was exposed to show how the space was organised. This showed that the yellow brick paving set was set on a camber 9m wide, topped by a concrete strip 1m wide, with each cambered area divided by shallow drainage gullies with a stone base.

12. CONCLUSIONS

- 12.1 The groundworks had been planned to minimise the disturbance to significant archaeological deposits and in this respect the project was extremely successful with the majority of works disturbing only modern or late post-medieval deposits.
- 12.2 The majority of the features and deposits exposed within Castle Green related to the later post-medieval use of the area for livestock market activities.
- 12.3 Evidence for the medieval use of the area was generally limited, but confirmed the distribution of the early medieval cemetery within the former outer bailey of the castle. A single *in situ* burial, sealed under deposits derived from the digging of the inner moat provided a radiocarbon date of between the 10th and 12th century which was within the expected dating parameters for the use of the cemetery.

13. ARCHIVE AND OASIS

- 13.1 The finds, paper and digital archive is currently held at the offices of AC archaeology Ltd, at 4 Halthaies Workshops, near Exeter, Devon, EX5 4LQ and will be deposited with the Somerset County Museum, in Taunton under the accession number 12/2010, PRN no. 29333.
- 13.2 An online OASIS entry has been completed, using the unique identifier 205026, which includes a digital copy of this report.

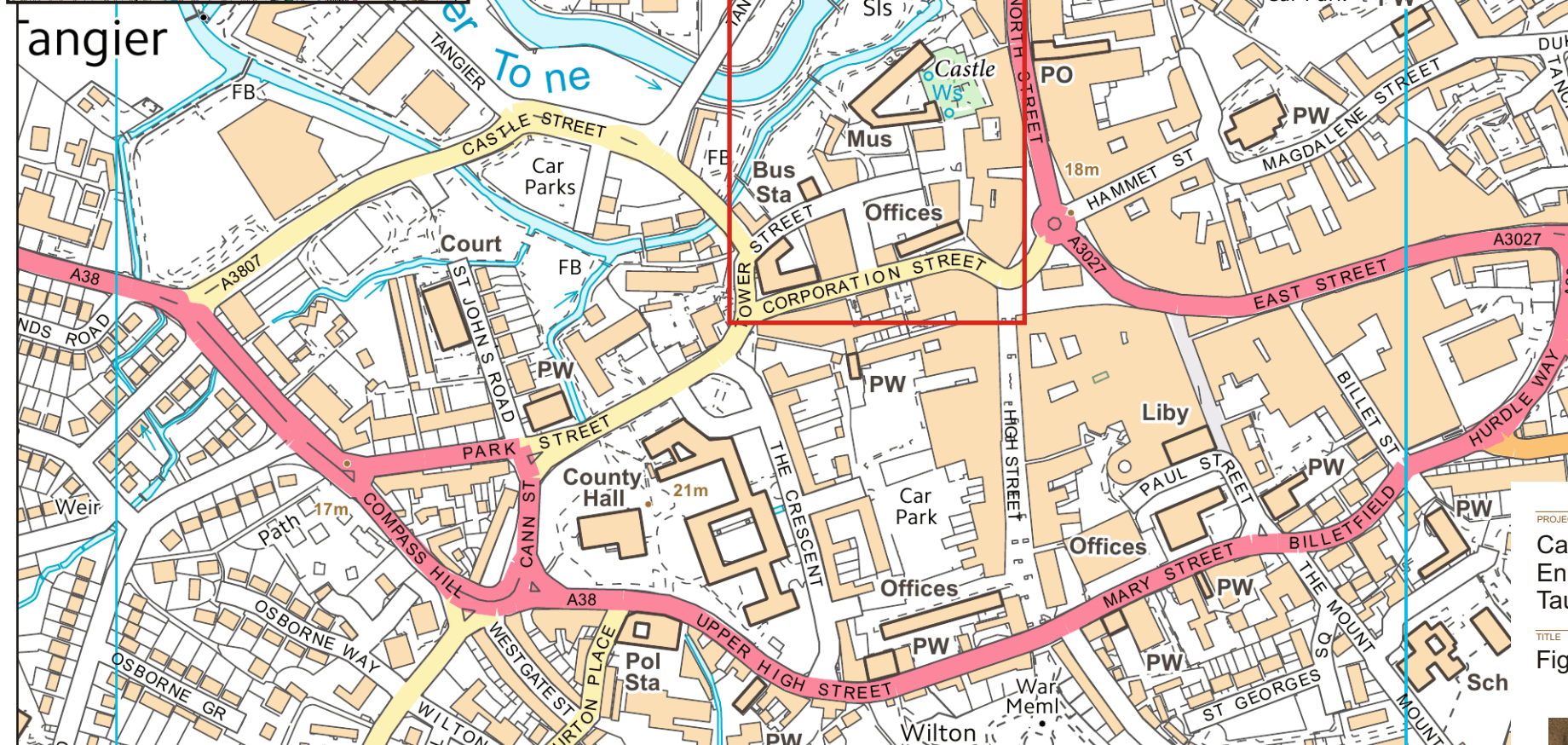
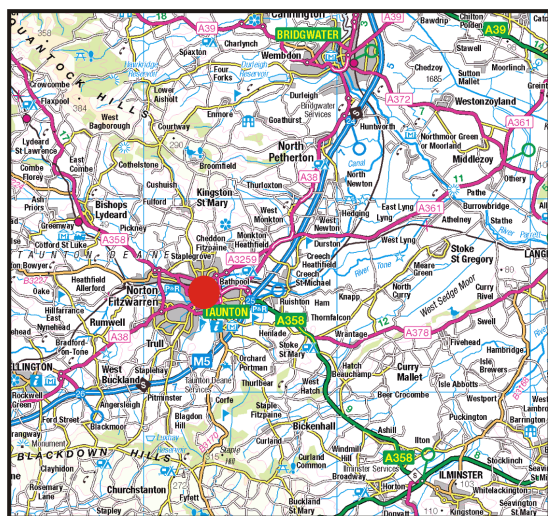
14. ACKNOWLEDGEMENTS

- 14.1 The investigations were commissioned by Taunton Deane Borough Council. The reporting was managed for Taunton Deane Borough Council by Matthew Parr. The fieldwork was managed for AC archaeology by Tanya James and the reporting by Andrew Passmore. The site work was undertaken by Fiona Pink, Jerry Austin, Chris Caine, Simon Hughes and Kerry Kerr-Peterson. The illustrations were prepared by Sarnia Blackmore. The collaborative roles of Bob Croft and Chris Webster (SCCHES) and Phil McMahon (EH) are duly acknowledged.

15. SOURCES CONSULTED

- Bush, R. and Meek, M. 1984, 'The Castle: History and Documentation', in P. Leach (ed.) *The Archaeology of Taunton Excavations and Fieldwork to 1980*. Western Archaeological Trust Monograph **8**, 11-16.
- Clements, C.F. 1984, 'The inner ward and outer bailey, burials and structures exposed in the 1970s', in P. Leach (ed.) *The Archaeology of Taunton Excavations and Fieldwork to 1980*. Western Archaeological Trust Monograph **8**, 26-36.
- James, T., 2011, *The Castle Green Enhancement Scheme, Taunton, Somerset: Method Statement for Archaeological Investigations*. AC archaeology document no. **ACD309/1/1**.
- Katz, D. and Suchey, J.M. 1986, 'Age determination of the male Os pubis', *American Journal of Physical Anthropology* **69**, 427-435.
- Lovejoy, C.O. 1985, 'Dental Wear in the Libben Population: Its Functional Pattern and Role in the Determination of Adult Skeletal Age at Death', *American Journal of Physical Anthropology* **68**, 47-56.
- Manning, P. 2008, *Archaeological Assessment of Castle Green, Taunton, Somerset, Exeter Archaeology Report Number 08.61*

- Meindl, R.S. and Lovejoy, C.O. 1985, 'Ectocranial Suture Closure: A Revised Method for the Determination of Skeletal Age at Death Based on the Lateral-anterior Sutures', *American Journal of Physical Anthropology* **68**, 57-66.
- Passmore, A.J. 2010, *Archaeological Monitoring of a Geotechnical Investigation at Taunton Castle, Somerset*, Exeter Archaeology Report Number **10.13**
- Passmore, A.J. 2011, *Archaeological Recording of a Gas Main Replacement at Castle Green, Taunton, Somerset*, Exeter Archaeology Report Number **11.21**
- Reimer, P.J., Bard, E., Bayliss, A., Beck, J.W., Blackwell, P.G., Bronk Ramsey, C., Grootes, P. M., Guilderson, T.P., Hafliðason, H., Hajdas, I., HattĹ, C., Heaton, T.J., Hoffmann, D. L., Hogg, A.G., Hughen, K.A., Kaiser, K.F., Kromer, B., Manning, S.W., Niu, M., Reimer, R.W., Richards, D.A., Scott, E.M., Southon, J.R., Staff, R.A., Turney, C.S.M., and van der Plicht, J. 2013: 'IntCal13 and Marine13 Radiocarbon Age Calibration Curves 0-50,000 Years cal BP', *Radiocarbon*, **55(4)**, 1869-87.
- Roberts, C. and Manchester, K. 1995, *The Archaeology of Disease*. Cornell University Press.
- Sundick, R.L. 1978, 'Human Skeletal Growth and Age Determination', *Journal of Human Evolution* **29**, 231-249.
- Trotter, M. and Gleaser, G.C. 1952, 'Estimation of stature from long bones of American whites and negroes', *American Journal of Physical Anthropology* **10**, 463-514.
- Webster, C., forthcoming, *Taunton Castle: Archaeological Excavations and Recording 1853–2010*.



 Site location

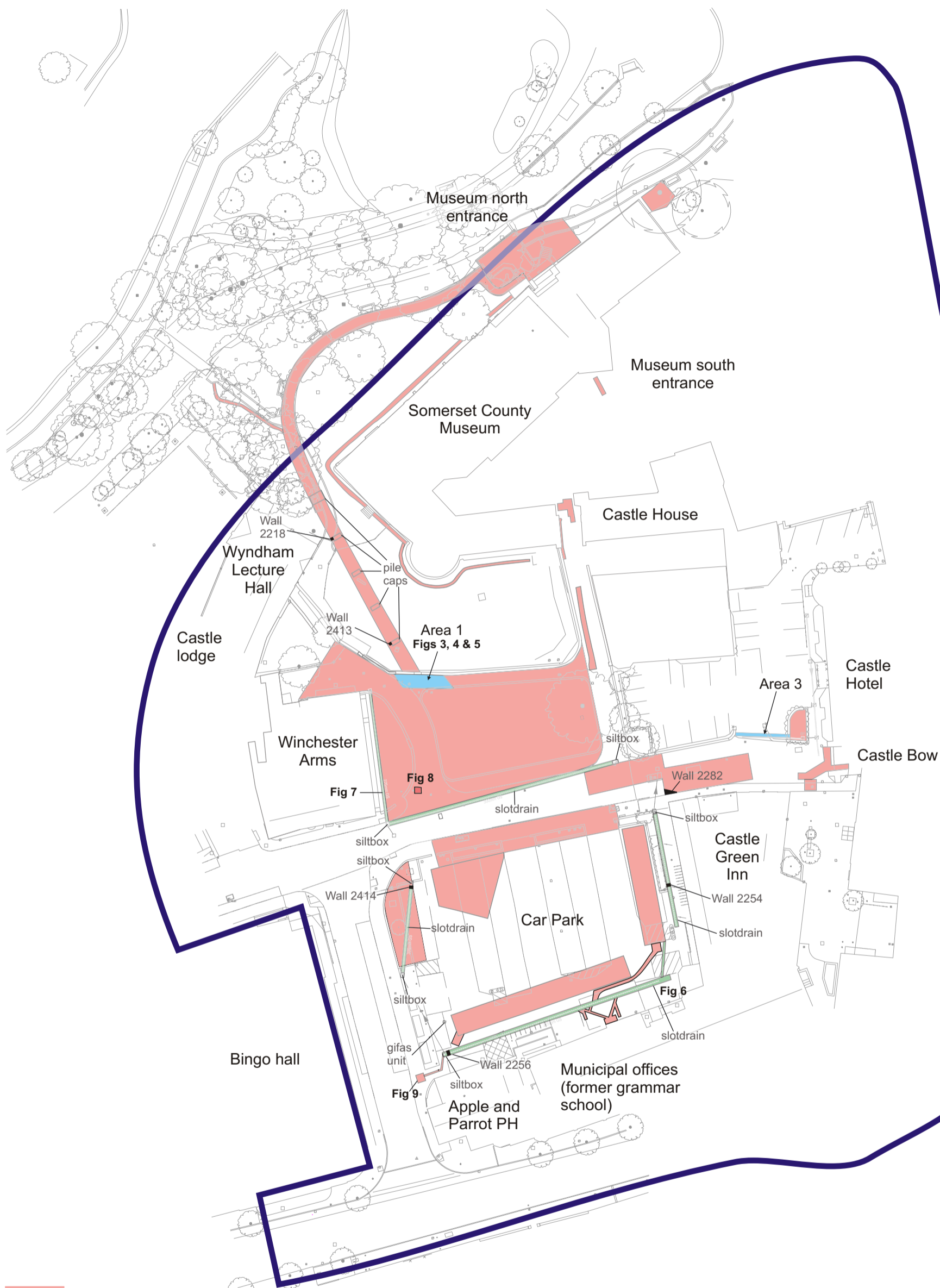
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**Castle Green
 Enhancement Scheme,
 Taunton, Somerset**

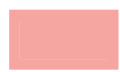



TITLE
Fig. 1: Location of site



0 250m
 Scale 1:5000@A4

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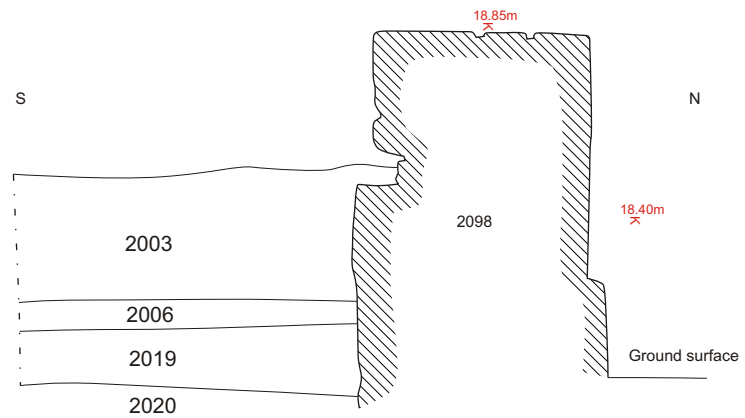
-  Monitored areas
-  Areas 1 and 3
-  Slotdrains
-  Scheduled Area

0 50m

PROJECT
Castle Green Enhancement Scheme, Taunton,
Somerset

TITLE
Fig.2: Site plan showing excavation
areas and areas monitored



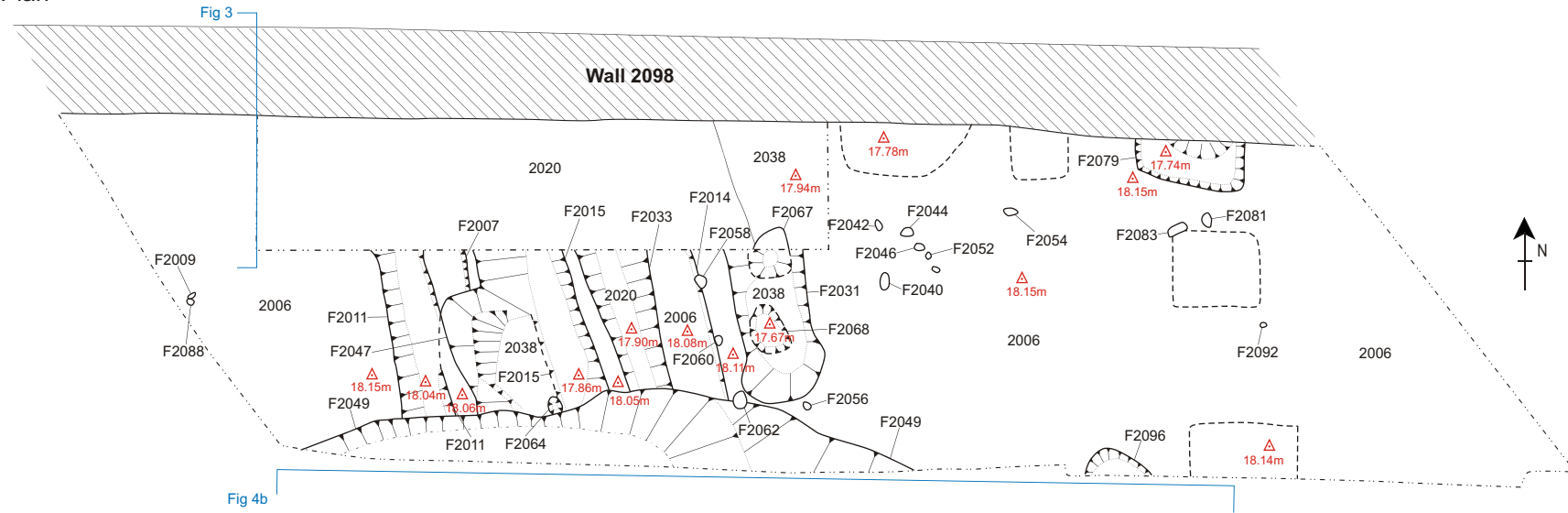


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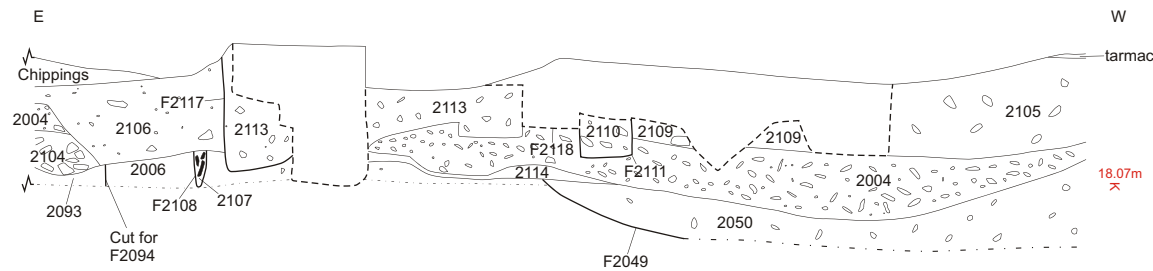
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**Fig. 3: Section of
 boundary wall 2098**



a) Plan



b) Section

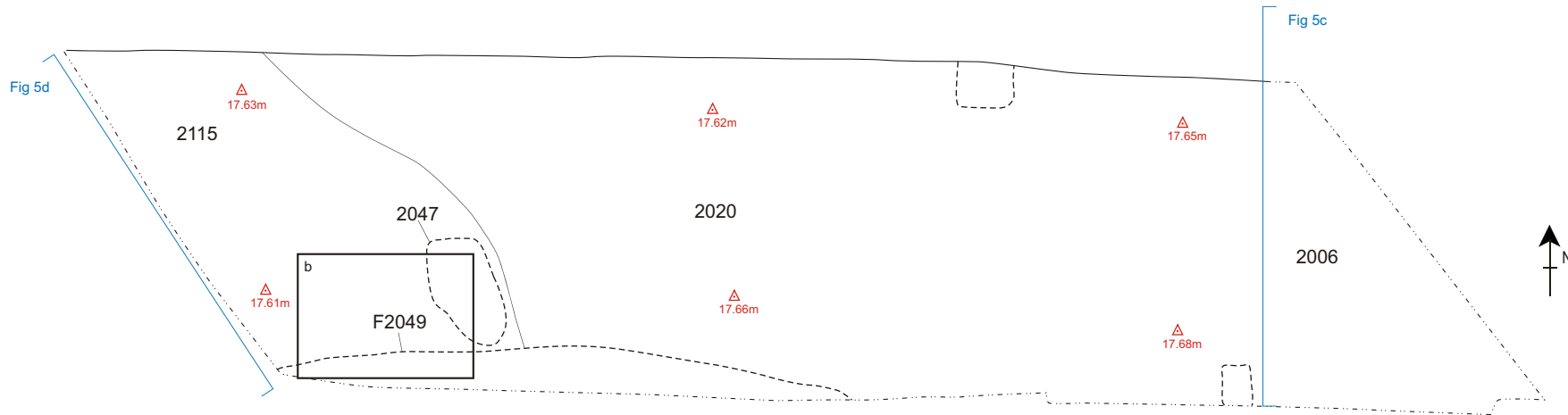


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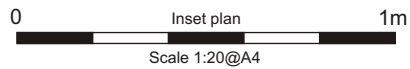
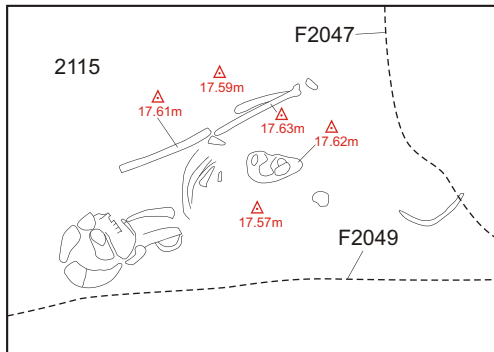
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**Fig. 4: Excavation Area 1,
 plan of features cutting
 deposit 2006 and section**



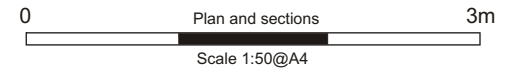
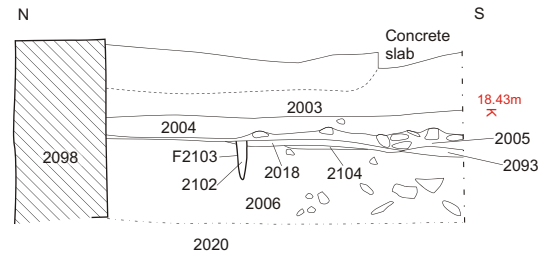
a) Plan



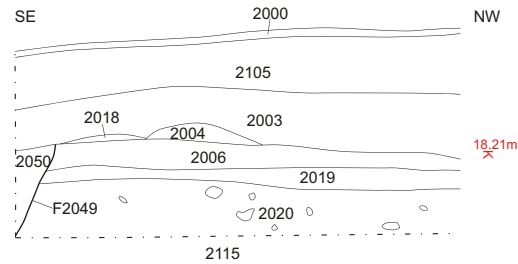
b) Inset plan



c) West facing section



d) Northeast facing section

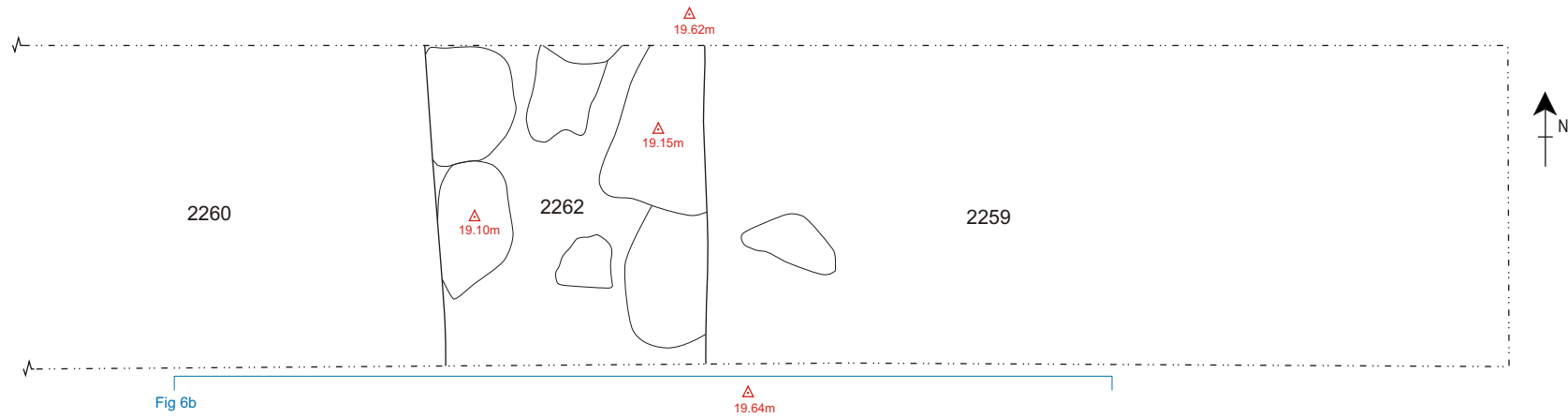


PROJECT
**Castle Green
 Enhancement Scheme,
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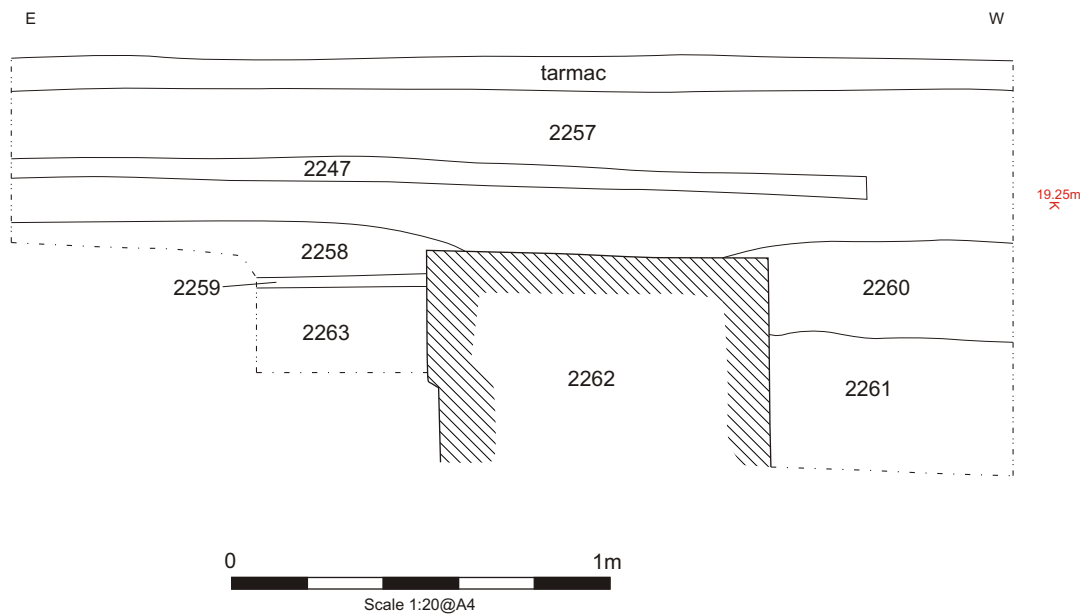
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**Fig. 5: Excavation Area 1,
 plan and sections of
 deposits 2115, 2020
 and plan of SK2099**



a) East end of slotdrain trench to north of former grammar school



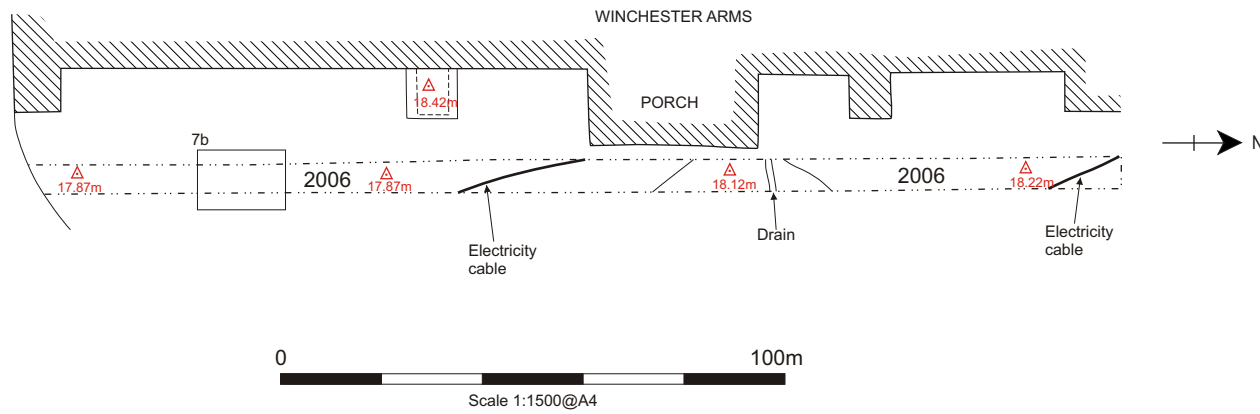
b) Section



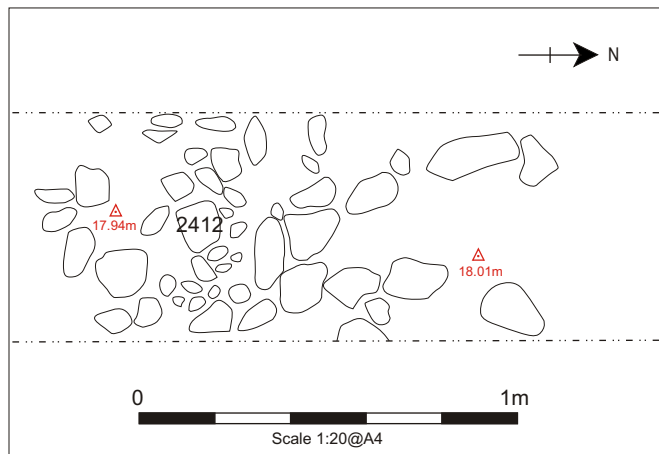
PROJECT
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Enhancement Scheme,
Taunton, Somerset

TITLE
Fig. 6: Location plan and
section of wall 2262

a) Plan



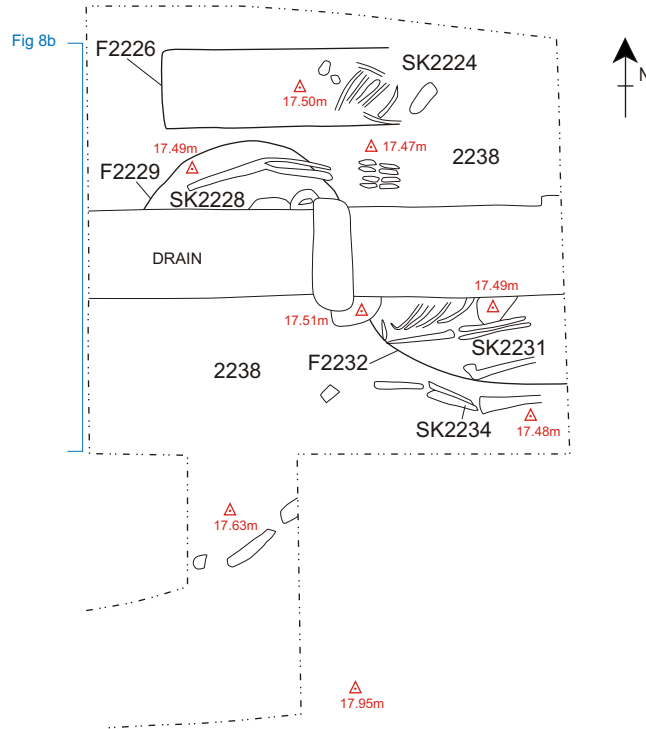
b) Inset plan



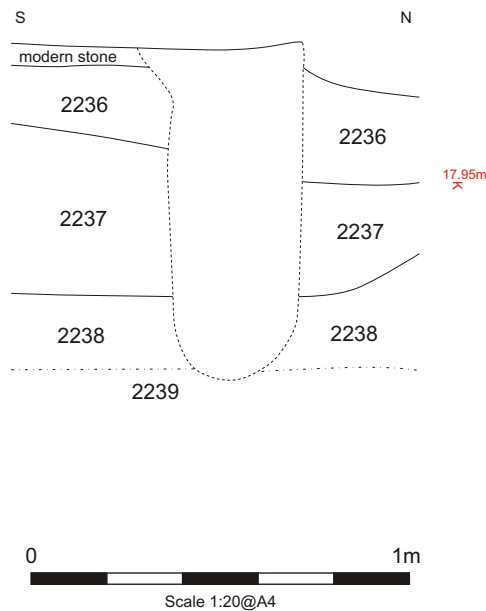
PROJECT
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TITLE
Fig. 7: Plan of slotdrain
to the east of the
Winchester Arms

a) Plan



b) Section



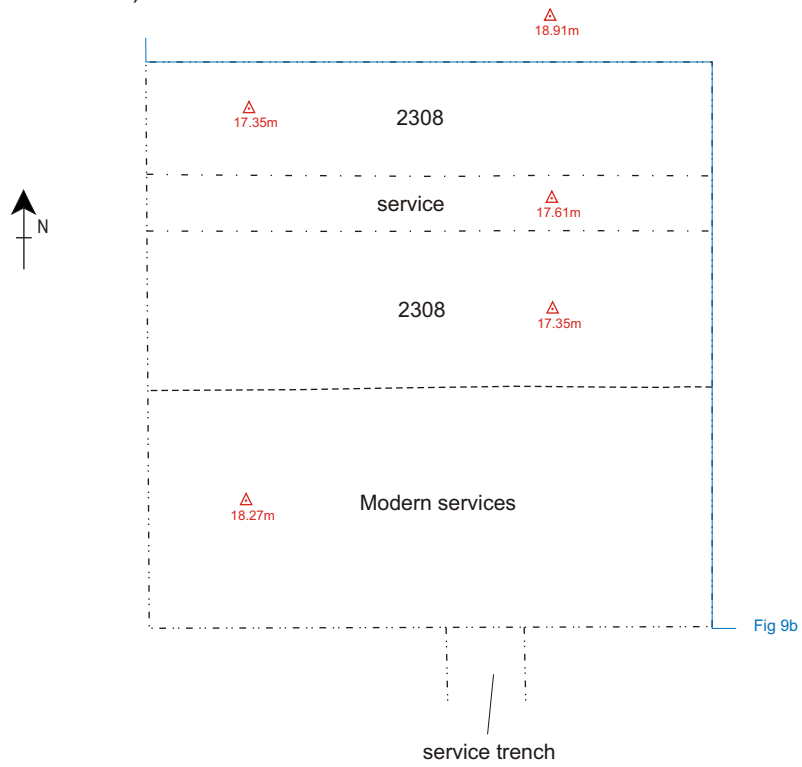
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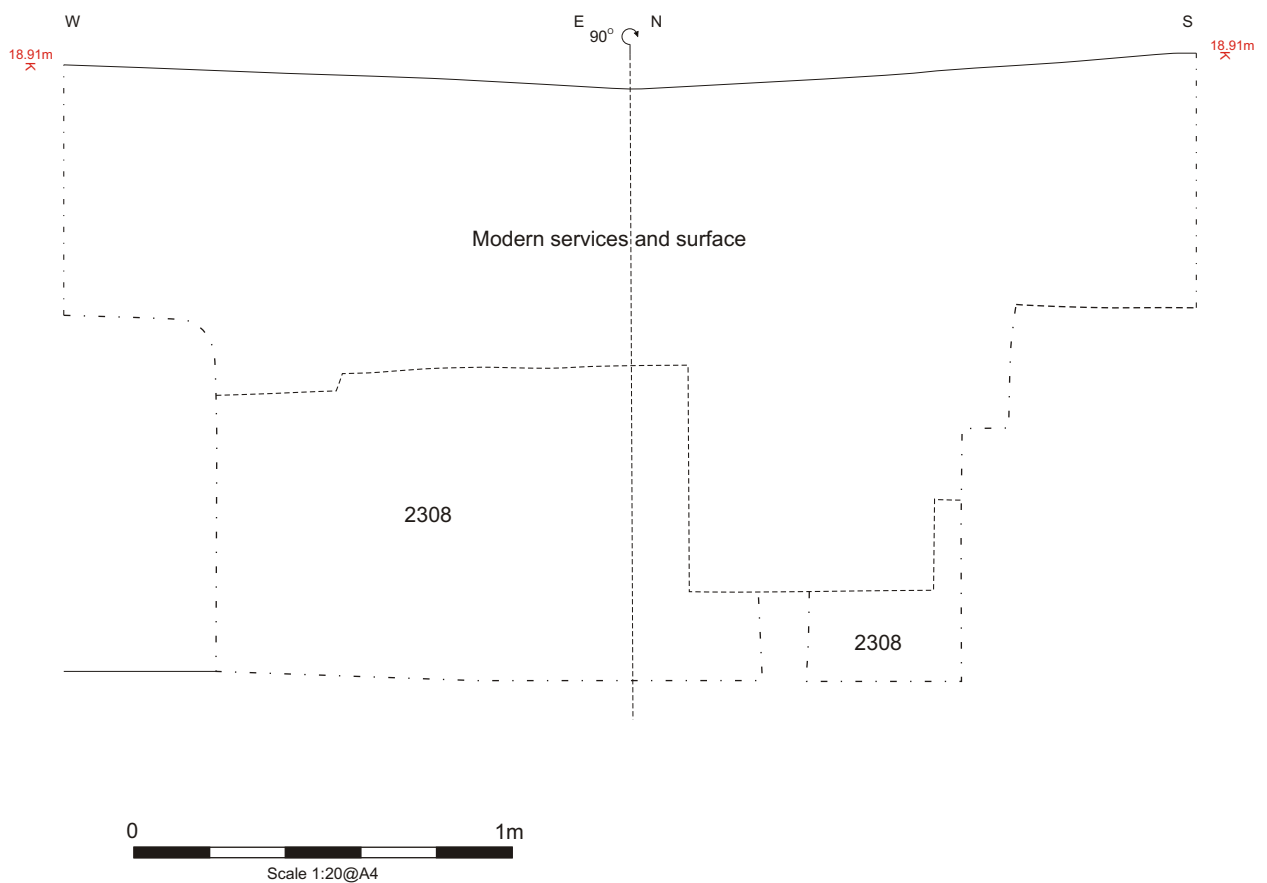
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Fig. 8: Plans and section of connection trench
including skeletons 2224, 2228,
2231 and 2234

a) Plan of base of trench



b) Section



PROJECT

Castle Green Enhancement Scheme, Taunton, Somerset

TITLE

Fig. 9: Plan and section of cable access pit on the western side of the car park



Plate 1: Excavation Area 1,
post-excitation,
looking west (scale 2m)



Plate 2: Oblique view of wall 2098,
looking northwest (scale 1m)



Plate 3: Excavation Area 1,
former cattle market hard core
2005 (scale 1m)



Plate 4: Excavation Area 1, north-facing section of post-medieval linear features (scale 1m)



Plate 5: Excavation Area 1, post-medieval postholes and stakeholes, looking south (scale 1m)



Plate 6: Excavation Area 1, skeleton SK2099, looking south (scale 1m)



Plate 7: Excavation Area 3, looking east (scale 0.3m)



Plate 8: Excavation Area 3, excavation in progress, looking northeast (scale 1m)



Plate 9: Former cattle market surface exposed on the east side of car park, looking north (scale 1m)



Plate 10: Detail of former cattle market surface exposed on the east side of car park (scale 1m)



Plate 11: Wall 2262 in slot drain trench north of the former grammar school, looking east (scale 0.3m)

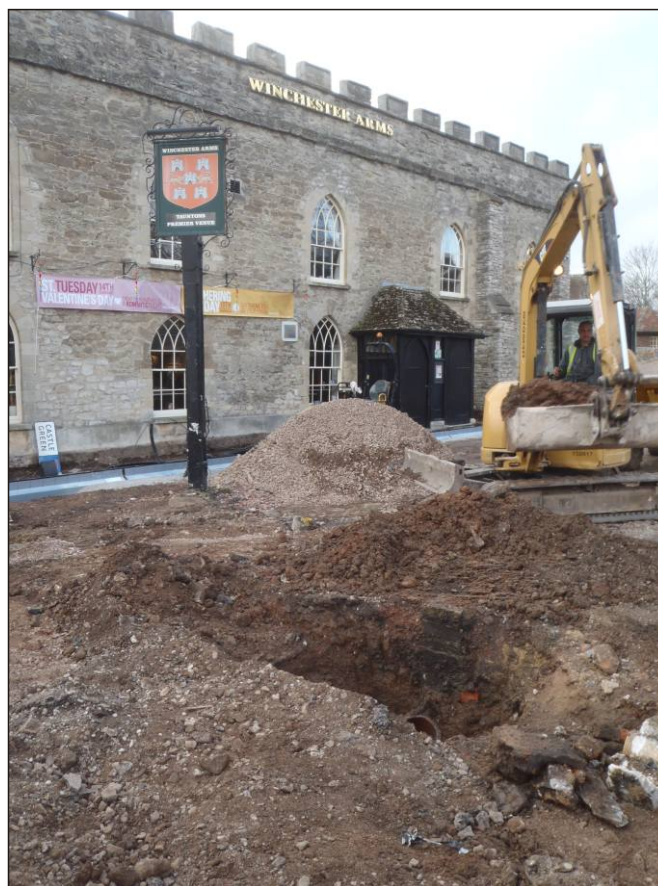


Plate 12: Trench containing skeletons SK2224, SK2228, SK2231 and SK2234, looking northwest



Plate 13: Skeletons SK2224, SK2228, SK2231 and SK2234, looking north (scale 1m)



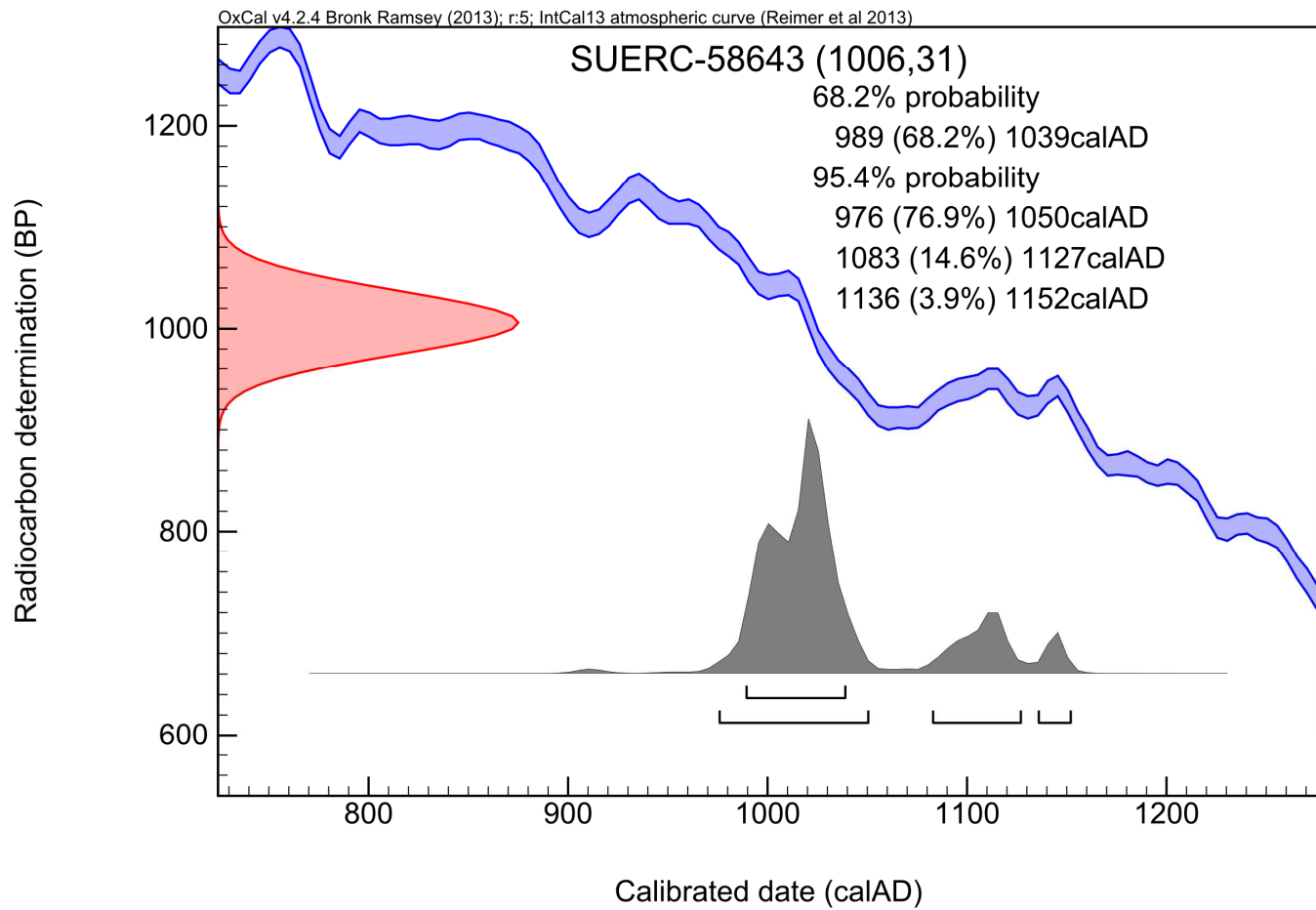
Plate 14: Work in progress for footbridge construction, looking northwest

Appendix 1

The radiocarbon calibration plot



Calibration Plot



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