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PETER HOLDEN
ARCHITECTS
PENSEIRI

TENBY TOWN WALLS

ARCHEOLOGICAL
RECORDING
PROJECT

FOR

SOUTH
PEMBROKESHIRE
DISTRICT COUNCIL

AND

CADW

NOVEMBER 1993

TENBY TOWN WALLS

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1.00 INTRODUCTION

South Pembrokeshire District Council and Cadw, Welsh Historic Monuments, are involved in a long running programme of repair and consolidation of the Town Walls of Tenby, Pembrokeshire. Although incomplete, they are the best surviving enceinte of Mediaeval Town Walls after Conwy in Wales. The present conservation work extends back at least 10 to 20 years, but the recording of interventions has been very inadequate and piecemeal, only relating to those stretches of wall being worked on at any particular time.

South Pembrokeshire District Council and Cadw have therefore proposed that a thorough archaeological survey, based on rectified photography, of the surviving fabric of the landward walls be carried out. It was originally envisaged that the survey would be carried out in three field seasons over the winter months of 1992-93, 1993-94 and 1994-95, with drawings and a report compiled for each phase of field work; these would have been linked to, and preceded where possible, associated campaigns of restoration. However the first season of work was carried out between 4 January and 5 March 1993, and the remaining two seasons were amalgamated into one; they were undertaken between 10 May 1993 and the date of submission of this report.

The contract was initially let on 4 January 1993 to Peter Holden Chartered Architects, with specialist archaeological and photographic skills drawn in as necessary. Peter Holden RIBA, has been responsible for overall co-ordination of the project. He is the local representative of Acanthus Associated Architectural Practices Ltd, and is Pembrokeshire based. The archaeological input has been provided by Salvatore Garfi MIFA of Pontrhydygroes, Dyfed while the rectified photography has been carried out by Phil Holden, Professional Photographer working out of Swansea.

The master copy of this report with base drawings on draughting film, and including the photographic negatives, will be deposited in the National Monuments Record for Wales. The NMR is a public archive held in Aberystwyth at the offices of the Royal

Commission on Ancient and Historical Monuments of Wales, wherein archaeologists, historians and other interested persons have ready access to original (and duplicate) source material pertaining to the ancient and historical sites and monuments of Wales. Paper copies of the report are also to be deposited with South Pembrokeshire District Council and Cadw.

2.00 PREVIOUS RESEARCHES AND DESCRIPTIONS

Researchers and artists in the past have devoted a fair amount of time and energy to describing Tenby's Mediaeval walls. However, such work has been all too brief, and the commentators have almost always failed to literally look in detail at the stones and mortar of the very structure under scrutiny. Nevertheless, invaluable records and commentaries have been compiled. The earliest is Etchings of Tenby (London, 1812) by Charles Norris. Norris was a Topographic artist who worked extensively in South West Wales (1). He lived in Tenby and Waterwynch, and produced forty etched plates of the town as it existed at the beginning of the nineteenth century. Eight of the plates illustrate the western curtain wall of the town, and these are of particular importance to this survey. In fact, Norris' etchings have been quite pivotal to the descriptions and analyses of Tenby's walls by a number of later researchers.

1896 saw the publication of 'Notes on the Fortifications of Mediaeval Tenby' by Edward Laws, in Archaeologia Cambrensis (2). For all of its faults by modern standards, this is the only attempt at a topographically comprehensive, structural description of the walls published to date. The survey was compiled in a methodical and straightforward way, and the use of its nomenclature for constituent parts of the wall is a requirement of the brief for the present survey.

In the first half of this century, Arthur Leach, Alderman of Tenby, wrote books, pamphlets and articles on the history and topography of the town and South Pembrokeshire (3). He failed to write a thorough history of Tenby before his death, but his observations on the Town Walls are of very considerable worth.

It is unfortunate however that most of the above compilations are marred by an approach which is obviously all too antiquarian. They lack the rigorousness of modern history and archaeology, and only in the 1960's and 1970's were articles and observations published which were more critical, in a modern sense.

The most thorough researcher into the mediaeval history and topography of Tenby is the historian R F Walker of the University College of Wales, Aberystwyth (now retired). His article 'Jasper Tudor and the Town of Tenby', 1969 (4) and his contribution to the Boroughs of Mediaeval Wales, 1978 (5) have not been rivalled. In the latter he includes a generalised overview of the development of Tenby's walls which is brief, but comprehensive, and refreshingly, he does not continue to support traditional assumptions on the dates and sequences of wall building activities which more or less had not changed since the 1890's.

A contemporary of Walker's is W Gwyn Thomas, formerly of the Royal Commission on the Ancient and Historical Monuments of Wales. In 1962 he published notes (6) on the town walls of Tenby which differed from previously published accounts by putting an emphasis on the sequences in which the mural towers were added to the curtain wall. Last year his presidential address to the Cambrian Archaeological Society dealt solely with the walls of Tenby. It is due to be published next year (7), and it raises at least one important point on the earliest defences of the town which has not been dealt with by any previous commentator. He proposes that Tenby could have had earthen defences prior to the present curtain walls. Gwyn Thomas' account is the latest commentary on the town walls of Tenby. It brings to the fore valuable insights, and a wealth of cross references.

3.00 APPROACH AND METHODOLOGY

The aim of this survey has been to produce a record of all of the accessible surviving fabric of the landward defensive walls of Tenby, showing how they stand in the 1990's, approximately one hundred years after the last structural description was compiled by Edward Laws, and published in Archaeologia Cambrensis in 1896. Such a survey is necessary to insure that the management of the walls is based on a knowledge of the make-up and development of the fortifications, and as a corollary, to present the findings in such a way that they will not only be useful to the curators of the walls, but to academics and the interested public

The primary recording method called for by the brief has been rectified photography. Hand measurement and detailing has been kept to a minimum, and has only been carried out where obvious features were hidden from the camera. The photography was carried out by Phil Holden of Swansea and assisted by an architectural technician from Peter Holden Chartered Architects. A medium format camera has been used with a rectified lens. The black and white exposures were hand printed to a scale of 1:50. Wherever possible the prints show a horizontal datum surveyed on to the wall and vertical 2 metre ranging rods.

The photography thus prepared has provided the basis for drawn elevations at 1:50 showing all of the features and changes of build in the curtain wall. The entirety of the exterior elevation was covered, while a limited photographic survey was undertaken on the rear of the wall due to incomplete access.

The two square towers in the wall have also been recorded by rectified photography but the round towers, including the barbican gateway known as the 5 Arches Tower, have been photographed obliquely. Even though this coverage has produced perspective drawings, they are still of great use in illustrating the features and changes of build in the individual towers.

At the initial site meeting held on 6 January 1993, Cadw and South Pembrokeshire District Council made it clear that the drawings produced from rectified photography were not supposed to illustrate the total 'stone by stone' fabric of the walls, and that a dependence on rectified photography, with its inherent limitations, precluded a desire for metric accuracy (8). In fact, because the photographic coverage was taken from ground level and the walls have a slight batter, and the very top of the wall is set back due to a coping with a roughly triangular section, the vertical heights recorded on the photographs can be quite different from those hand measured in the field. Where the walls are their shortest the difference is relatively negligible; this is the case immediately south of the 5 Arches Tower (E). But for instance, along South Parade, the hand measured height of the wall can be ca 5% greater than that shown in the elevation drawings transcribed from the rectified photography, and ca 10% along White Lion Street. Nevertheless, the elevation drawings in conjunction with the text of the survey, the sections, and the photographs, do provide a comprehensive, informative and cost effective record of Tenby's Mediaeval walls. One which conforms with the requisites of the brief, and the needs of the wall's curators.

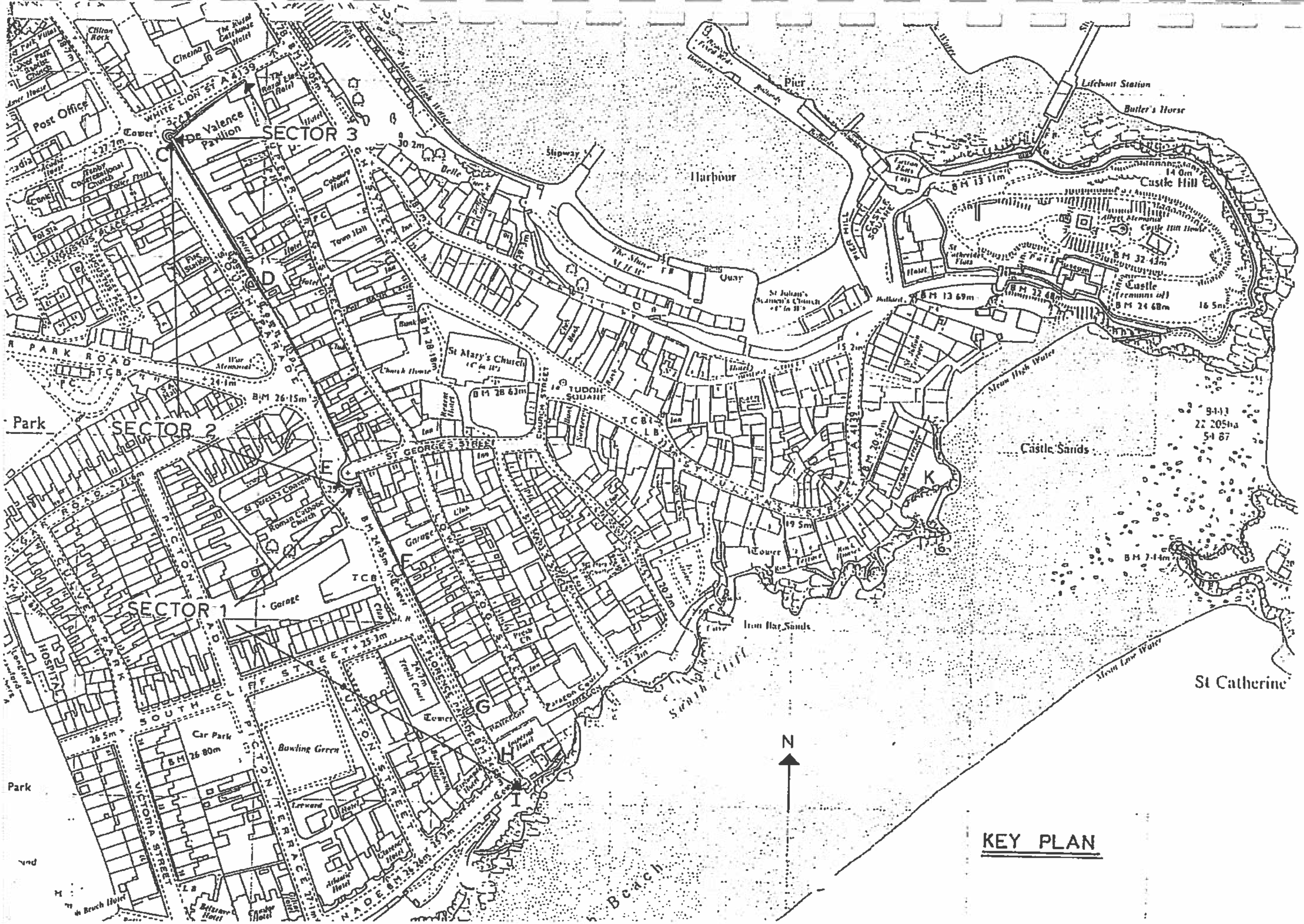
Two sets of A3 elevation drawings at a scale of 1:50 have been produced from a montage of the rectified photographic prints. They are:-

- Base drawings, prepared on draughting film, and illustrating the features and builds evident in the walls, along with the stones that detail them.

- Archaeological interpretation drawings, showing the different phases of construction and alterations. Plus, annotations of the extent of restoration works undertaken by South Pembrokeshire District Council over the past decade.

Profiles of the curtain wall, and cross sections and plans of those towers which were accessible have been produced. They too have been drawn at 1:50 scale.

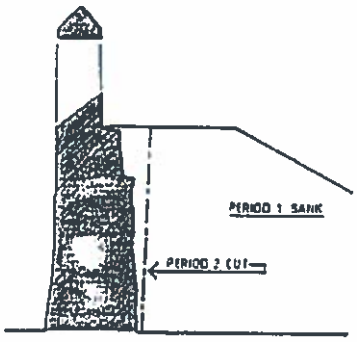
The base drawings have been draughted by Chris Westbury of Peter Holden Chartered Architects, with assistance from Christopher Evans and Craig Thomas. Chris Westbury and Craig Thomas also surveyed the towers and produced wall profiles. Salvatore Garfi assisted in some of this work.


SECTOR 1
SECTOR 2
SECTOR 3
N
Harbour
Quay
Pier
Slipway
Lifeboat Station
Castle Hill
Castle
Castle Sands
St Catherine
Iron Bar Sands
South Cliff
St Mary's Church
Tudor Square
Town Hall
Post Office
Cinema
De Valence Pavilion
Tower
Post Office
White Lion St A 4139
St George's Street
St Julian's Street
Picton Road
Picton Terrace
South Cliff Street
Sutton Street
Victoria Street
Culver Park
Park Road
Augustus Place
Hospital
Car Park
Bowling Green
Tennis Court
Garage
Park
Castle Square
Pier Hill
St Peter's Convent
Roman Catholic Church
War Memorial
Fire Station
Club
Mean High Water
Mean Low Water
A
B
C
D
E
F
G
H
I
K

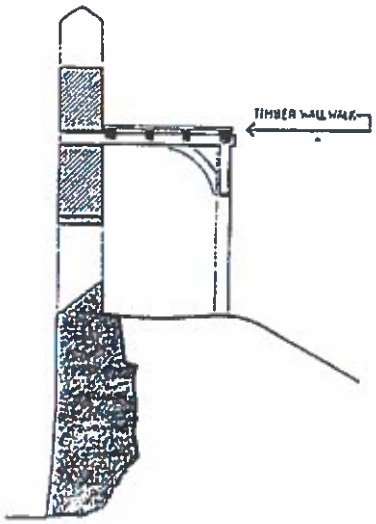
KEY PLAN

DEVELOPMENT OF TENBY TOWN WALLS

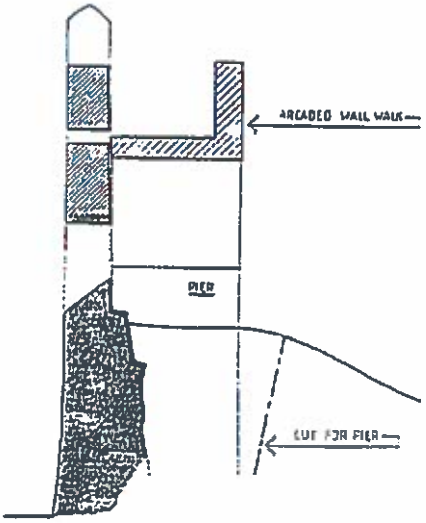
SECTORS 1 and 2



PERIOD 2



PERIOD 4



PERIOD 6

REDUCED FROM DRWG A 69

4.00 TOPOGRAPHY

The landward walls of Tenby outline the northern and western limits of the mediaeval town (see Key Plan). Their greatest length runs for approximately 410 metres from South-Southeast to North-Northwest along St Florence Parade and South Parade, rising from ca 24.1m above O.D. near the South Cliff, to ca 28.8 m above O.D., at the corner tower where, at the junction of South Parade and White Lion Street, the wall turns East-Northeast for approximately 56 metres along the latter street, and there rises to ca 31.2 m above O.D. Overall, the approximate slope of the ground surrounded by the landward walls (including the full length of White Lion Street) is downward from Northeast to Southwest.

The cliffs bounding the town along the sea outline a relatively high rocky peninsular of primarily carboniferous limestone, with millstone grit exposed in the sections visible along North Beach (10). The south most tower (or turret) delimits the southern termination of the landward walls by sitting precipitously at the top of South Cliff, overlooking South Beach.

The base drawings were duplicated on heavy grade tracing paper, and after studying the walls in the field, they were anotated and drawn over by Salvatore Garfi, to produce the archaeological interpretation drawings. He also compiled data on the conservation interventions undertaken by South Pembrokeshire District Council and has written this report.

The drawings are numbered 01 to 69. Those prefixed with the letter A are the archaeological interpretation drawings, while those prefixed B are the base drawings. Throughout this report all references to drawings will be to those prefixed A. Levels above O.D. noted on the elevation drawings represent the datum lines recorded on the rectified photographs. However, most other levels noted in the text are approximations, and some have been recorded or estimated by very indirect means. Their reference to Ordnance Datum has been included so that only comparisons of relative heights can be made.

The nomenclature used throughout the survey has been taken from Edward Laws' 'Notes on the Fortification of Mediaeval Tenby', Archaeologia Cambrensis, 1896.

Integrated desk-top research (9) has been undertaken by Salvatore Garfi, parallel to the field work and graphic preparation of the survey. The study has limited itself to published sources, although the data held in the National Monuments Record for Wales, and the relevant information held in the files of South Pembrokeshire District Council have been consulted. Records held in the Tenby Museum have been viewed, and discussions on the history and development of the walls have been had with Mr J Tipton, curator of Tenby Museum, Dr R F Walker formerly of UCW Aberystwyth, and the architect who has been responsible for recent conservation works on the walls, Mr J Pickett of South Pembrokeshire District Council. Further conversations have been had with staff of the Castles section of the Royal Commission on the Ancient and Historical Monuments of Wales, and Mr Terry James, formerly of the Dyfed Archaeological Trust and presently with the RCAHMW - who has a particular interest in the history of Pembrokeshire. Telephone discussions have also been had with Mr W Gwyn Thomas. This research has been very important to the interpretation of the structural history of the walls of Tenby, and it has highlighted many relevant avenues of enquiry for further research.

5.00 THE PRESENT SURVEY

In his publication of 1896, Laws applied alphabetical designations to each of the towers and gates in the walls. He aimed to describe all of the remaining walls, along the sea as well as the land. It must be stressed however, that the seaward walls are not in any way part of this survey (they include features designated J to Z by Laws, although U to Z were apparently never described in a publication). Laws' Towers A and B are also not dealt with in this survey; they respectively represent a small semicircular tower exposed in the last quarter of the last century at the eastern end of White Lion Street, and the old Carmarthen or North (or Great) Gate, destroyed entirely by the end of the eighteenth century (11).

Laws' designations used in this survey are therefore, C to I (see Key Plan). He referred to the mural towers punctuating Tenby's walls as 'bastions' but this report shall only refer to them as 'towers', save in the case of Tower I which shall be called Turret I. The dispositions and national grid references of C to I are as follows:

Tower C (NGR SN 1324 0056) The Northwest Tower, situated at the junction of White Lion Street and South Parade.

Tower D (NGR SN 1329 0048) Belts Arch Tower, or simply Belts Arch or Belts Tower, situated along South Parade between Towers C and E.

Tower E (NGR SN 1335 0038) Known as either, the Five Arches, The Five Arches Tower, the South Gate, the West Gate, or the South West Gate. It is a barbican gateway situated at the junction of South Parade, St George's Street and South Pool. The latter is a name no longer shown on Ordnance Survey maps for the north end of what is now designated St Florence Parade.

Tower F (NGR SN 1338 0033) South Pool Tower, situated at the south end of what used to be referred to as South Pool, at the north end of St Florence Parade. This tower is positioned between Towers E and G.

Tower G (NGR SN 1342 0025) The Square Tower or the Artillery Tower, situated on St Florence Parade and immediately north of the 19th Century Belmont Arch, broken through the curtain wall to give access to what is now the Imperial Hotel.

Tower H (NGR SN 1344 0022) Belmont Tower, situated on St Florence Parade and now incorporated into the Imperial Hotel.

Tower I (NGR SN 1345 0021) Imperial Turret or Tower, situated at the junction of St Florence Parade and the Esplanade. This turret marks the southern termination of the landward walls, at the top of South Cliff.

There appears to be a consensus amongst most commentators on the history of Tenby's fortifications, that the walls were initially built some time after the sacking of the town by Llywelyn ap Gruffydd in 1260, and that the work was ordered by William de Valence, Lord of Pembroke who gave the town its first recorded charter around the year 1290. The only writer to challenge this has been R F Walker, who has suggested that the earliest stone defences could have been constructed some time during the Tenure of the Marshall Earls of Pembroke, within the first half of the thirteenth century (12).

There is general agreement that the curtain wall was constructed in two major building phases, and that the earliest wall was quite low. Towers were added including the barbican (5 Arches Tower, E) to the South Gate, and the walls and towers were subsequently heightened. A masonry wall walk was added by Jasper Tudor in the 15th century, and accommodation for early artillery was provided. To date, there has been no published suggestion that Tenby could have had earthen defences prior to those in stone. However, as has already been noted W Gwyn Thomas in his presidential address to the Cambrian Archaeological Society last year has made such a proposal, and this survey has

found evidence to support him.

The results of this survey challenge some of the established views on Tenby's landward fortifications while supporting others. However, there is a small degree of incompleteness in its conclusions since as already stated, this work has not dealt with the harbour and cliff top fortifications, including the disposition of the Castle and its defences. Also, no attempt has been made to consider the development and form of the Carmarthen or North Gate (B) formerly at the eastern end of White Lion Street. The extent of the moat has also not been dealt with.

6.00 THE DESCRIPTION

The format of the following reflects the original intention of the compiler of the brief for the survey, in that Tenby's landward walls are subdivided for descriptive purposes, into three parts. Therefore, each of the Period commentaries have been broken down into three topographic sectors (see Key Plan). These are, from South to North:

Sector 1 - Along St Florence Parade, and taking in the wall from Tower I up to 5 Arches Tower (E).

Sector 2 - Along South Parade, and taking in the wall from 5 Arches Tower (E) up to Tower C.

Sector 3 - Along White Lion Street, and taking in the wall from Tower C to Upper Frog Street.

Drawings pertaining to each sector are listed in the drawings register. (NB. Not all of the drawings are directly referred to in the report).

The dates in brackets applied to the following periods in the structural development of the town walls are very far from definite. The early dates have been influenced by the chronology of events described in R F Walker's contribution to Boroughs of Mediaeval Wales (ed) Griffiths, R A, 1978. They are discussed further in the Discussion and Summary section of this report.

6.10 PERIOD 1 (Prior to the first half, or Middle of the 13th Century)

There is evidence to suggest that Tenby had earthen defences predating the walls which are visible today.

6.11 SECTOR 1

All of the properties backing onto the rear of the town wall and fronting the west side of Lower Frog Street, to which access was granted in this sector, have gardens which it can be presumed, used to slope upwards towards the curtain wall. However, many of them have been lowered over time to a level comparable to that of St Florence Parade, which is at an overall height of 24.5m above O.D (13). This has led to the exposure of the lower portions of the curtain wall constructed in Period 2.

However, at York House (National Grid Reference SN 13410028) (see drawings A23 and A32), the garden level is preserved relatively high, rising to an estimated maximum of ca 26 m above O.D., up against the rear face of the town wall. This is in contrast to the level in the rear of the neighbouring garden at 3 Frogmore Villas, immediately to the north, which has been lowered to ca 25 m above O.D., but still retains a slight rise toward the wall, represented by a raised patio. Almost all of the gardens visited in this sector slightly rise to the rear with some kind of patio or raised platform abutting the town wall.

The ground floor of York House, which at the rear opens on to an adjacent patio area, is estimated from indirect measurements at ca 24.3m above O.D., producing a total maximum rise in the garden of almost one and three quarter metres up against the curtain wall. This sloping garden may very well represent the denuded remains of Tenby's pre 13th Century earthen defences, and it is quite possible that the other, lower gardens which slightly rise to the rear also reflect this, but to a much lesser degree. It is very likely that the embanked earthen defences were preserved for a considerable time behind the masonry wall constructed in Period 2. Its top, could be estimated at just below ca 27.5m above O.D. (see Period 2), and its mass would have most definitely given bulk to the curtain. When it was initially constructed, the earthen bank would have most likely been surmounted by a wooden palisade.

6.12 SECTOR 2

Evidence for the proposed earthen bank described as existing in sector 1 is relatively meagre behind the curtain wall running along South Parade. The only property with a

substantial garden backing up to the wall is at Cobourg House (NGR SN13270052). Here the garden gently rises in steps towards the wall by ca 0.75m. (See drawing A64). At its highest point, the garden level is ca 2.3m above the pavement outside the wall. This is in contrast to the situation at York House, described above, where the highest point of the garden is no more than 1m above St Florence Parade.

In sector 1, the lie of the gardens to which we were granted access, strongly suggest that the gardens have been levelled down over the years, while in the northern half of sector 2, wherein Cobourg House is situated, the lie of the land suggests that the gardens have been infilled; thereby levelling up the ground between the curtain wall and Upper Frog Street. In fact, the ground level drops almost 2.5 m from Upper Frog Street to Tower C along White Lion Street, and this general drop in the land is probably the reason for the levelling up of the garden at Cobourg House.

In his Presidential address to the Cambrian Archaeological Society, last year, Mr W Gwyn Thomas stated that he observed a section through the above quite close to the wall along South Parade on the site of the De Valence Pavilion in 1973. This was when constructors trenches were excavated for the present building (14). They revealed what he has described as a substantial, deposited layer of clay and gravel rising from the east to the west. This was in turn overlain by a stoney layer, and then garden soil. He has interpreted the dipping layer of clay and gravel as an earthen bank, predating the present curtain wall. When taken in conjunction with the observed lie of the garden behind York House in sector 1, Gwyn Thomas' assertion can only be supported.

6.13 SECTOR 3

There is no access to open ground behind the wall in this sector. Whether or not the earthen bank which almost certainly existed in sectors 1 and 2, turned to the east along White Lion Street cannot be proved or disproved (see Period 2, Sector 3 descriptions).

6.20 **PERIOD 2**(Middle of the 13th Century) *coded as* P2 *on the survey drawings*

This period is marked by the conversion of Tenby's defences from earth to rough limestone masonry. During this period, we can presume that the landward wall had its southern termination at the Belmont Tower (H) (National Grid Reference SN 13440022) as suggested by Laws (15). However, it is possible that some doubt can be cast on this assertion (16).

The following is a sector by sector description of the make up of Tenby's earliest defensive masonry wall. Overall the curtain was raised in two distinct building stages. Stage 1 deals with the first major construction lift, with stage 2 covering the second lift. Both of these stages are in turn sub-divided by subsidiary and / or localised building lifts, and these are most distinctive in sectors 2 and 3.

6.21 **SECTOR 1**

6.21(1) *THE CURTAIN WALL*

6.21(1a) *Stage 1 coded as* P2/1 *on the survey drawings*

To facilitate the construction of the wall, the Period 1 earthen bank most likely had its front face cut away. The cut was probably irregularly vertical, and built in and up against it was the first major lift of the new curtain wall. The level of the bottom of the cut into the bank cannot be known at present, but most likely it was as low as practicable beneath the contemporary ground surface.

This first lift is at least ca 1.3m wide at its base, narrowing upwards to ca 1.1m, where in places a small ledge is evident. This narrows further and finally to ca 0.9m at an average estimated height of ca 27.5m above O.D. Quite conceivably, this could represent the approximate height of the Period 1 earthen bank, but we will never be certain. The external face has a varying batter near its base. There are subsidiary building lifts and the masonry is coursed in random rubble. . The stones vary considerably in size and shape, the entirety of the front elevation has been differentially re-pointed over the years (we

cannot discount the possibilities of a later render), but presumably the stones are bonded in a lime mortar.

In the gardens at York House and 3 Frogmore Villas there is evidence, preserved in the profiles of the stone piers constructed in Period 6 which abut the curtain wall, that the internal profile of the lift was quite irregular and even bowed in places (see drawing A32). This probably mirrors the face of the cut in the earlier earthen bank, excavated to accommodate the wall. This marries with observations made by the architect responsible for the maintenance and restoration of the town wall from South Pembrokeshire District Council, that where the garden levels have been lowered considerably, they have exposed the back of the first major building lift which has always appeared to have been crudely constructed with an irregular profile, and with an earthen matrix giving the appearance of being more of a foundation than a free standing wall (17). This supports the proposition that an earthen bank existed behind the stone wall, and that the masonry could have been 'applied' to the bank with the rear of its lowest section irregularly and poorly constructed up against, and subsequently hidden by the remains of the earlier rampart.

6.21(1b)***Stage*** *2 coded as* P2/2 *on the survey drawings*

The initial major lift, ie stage 1, is visible throughout most of the length of this sector save in those places where subsequent repairs and alterations of later periods have removed the early masonry (see drawings A02, A03, A13 and A14). The top of the lift clearly marks a change in construction where the builders appeared to consciously pause so as to prepare a continual base upon which to construct the next stage of the wall. With the earlier earthen bank probably preserved behind the stage 1 masonry and at approximately the same height, access to this second major lift was easily facilitated. Presumably, there was only a need for a minimum of scaffolding, represented by occasional putlogs on the inside face of the wall (see drawings A22 and A23).

The wall in this second stage of construction is narrower than the top of the first lift, and is ca 0.65m in width. This leaves a ledge of ca 0.25m, but quite often less, on the inside of the wall at the junction of the two builds.

The second lift is preserved at an average height of ca 29m above O.D. in this sector.

There are tall internally splayed arrowslits with high. irregular cruciform sites, and cills which plunge at almost 45°. The slits are on average ca 1.4m high and their tops correspond approximately with the preserved height of the second lift. Along the line of the top of the preserved lift and between the arrowslits, there are the bottoms of crenels which have been filled in in Period 4. Their presence points to this second major lift as representing the upper part of the earliest masonry wall defending the town, as has been stated by all commentators on Tenby's fortifications. However, their relative shallowness suggests that the wall was probably at least ca 0.4m higher to the top of a coping (if the very top of the heightened Period 4 wall, as it exists today, is used as a guide). This would have given the wall an average height of ca 29.4m above O.D. in this sector, thereby standing at ca 4.8m above the level of St Florence Parade.

The preserved earthen bank of the earlier town defences, probably gave reasonable access to the arrowslits and crenels, and its mass must have given considerable bulk to a defensive wall which was quite thin. It would not be incorrect to simply view the Stage 1 masonry as that of a 'rampart wall', and the masonry of Stage 2 as that of a 'parapet wall' (see drawing A69).

6.21(2) *THE BELMONT TOWER (H)*

The precise constructional sequence of the Belmont Tower (H) during this period cannot be easily worked out. This is especially so because of the way in which the fabric of the tower has suffered by being incorporated into the Imperial Hotel, formerly Belmont House (see drawings A15 and A16). The tower in this period appears to be bonded into the curtain wall to its north, but the wall has been flush pointed and there is a substantial growth of mould. In consequence, all of the features which could indicate the walls structural history, and point to that of Tower H have been obscured. In fact, Laws implies that the wall between Towers G and H had more or less been rebuilt by his time, but this will be discussed in Period 9. Laws, relying on Norris' Etchings of Tenby, viewed the tower as serving as a bay in the wall which linked the seaward defences with those on the land (18). We, like previous commentators, can only presume that the tower stood originally, only as high as the approximate top of the first floor arrowslits. Unfortunately former crenels cannot be discerned between the arrowslits, nor can the original line of the top of the tower be unambiguously traced. We can only suggest that the structural development of the tower reflects the development of the curtain wall, even

6.22(2) *THE WEST GATE*

This gateway with its parapet masonry presently constitutes the east, or rear wall of the barbican entrance known as the 5 Arches Tower (E). It can be presumed to have stood with no masonry outworks when it was constructed as part of the curtain wall in this Period. Externally, the gateway structure is very simple (see drawing A52). The arch of the portal is shaped like a chain in catenary, but inverted. The parapet over the gate is higher than the Period 2 curtain wall along both South Parade and St Florence Parade, and the higher masonry (ca 8.5m wide) rises from crenels in the respective walls north and south of the gateway. Unfortunately, they have been obscured by the construction of the 5 Aches Tower (e) in Period 3. Nevertheless, their positions and heights can be ascertained from the different oversailing points of the superstructure of the 5 Arches Tower (E), where it was built up and over the Period 2 curtain wall.

There were two crenels, now blocked, and probably three arrowslits over the gate. However, the northern arrowslits position has probably been obliterated by the building of stairs to the top of the 5 Arches Tower (E), and the insertion in Period 9 of stone slabs and an iron bar, to strengthen the shallow arch supporting the stairway. There are building lifts clearly visible in the front elevation, and there are two putlogs on either side of the gate. The building stages recorded in this sector and sector 1, cannot be easily traced in the construction of the gate. This could point to the entrance as being constructed as a structural unity, distinct from the building of the curtain. The difference in Period 2 wall heights, between sectors 1 and 2 immediately south and north of the gateway, may also point to this.

The rear of the gate is quite hard to interpret. The present parapet walk is level with the cills of the crenels. This is most unusual, and does not occur elsewhere in the circuit of wall. Therefore, this probably points to the present parapet walk and structure behind the gate, as being later than the initial construction of the gateway and curtain wall, and possibly ascribable to Period 3. With the Period 2 wall fronting an earlier earthen bank, it can only be presumed that a wooden parapet walk, giving access to the crenels and arrowslits, was originally constructed over the gateway. The level of the gangway was probably no more than ca 0.75m below the present parapet walk. There is no visible evidence for this walkway since the rear of the wall in the entrance to St George's Street is extremely dirty, and of course, there is the great bulk of the present parapet walk

longitudinally abutting the rear of the Period 2 gateway, hiding any vestiges of evidence.

The arch leading to St George's Street is ca 3.3m high above the present street level, and comparably wide. At the head, the masonry is only ca 0.5m thick, while the thickness of the wall at ground level is indiscernible. Over the years (or most recent centuries), the lower reaches of the gateway have obviously suffered from traffic of all kinds colliding with it, and grazing the entrance jambs. This has given them an extremely rounded section in plan (see drawings A52 to A54 and A57) and has caused much patching and 'first aid' to be carried out on the gate. These interventions have apparently 'laced' together the Period 2 build with that of the wall walk (Period 3) at street level, while higher up, the delineation of the two phases of construction has been obscured by soot and car exhaust deposits.

From that which can be observed, this entrance to Tenby must have been very simple indeed, in Period 2. There are no signs of a portcullis or bars across the Portal, and there are no remains that could suggest how the doors were hung. Barrier creating features could have been part of the earth and timber structure which could have stood behind the gateway, but the remains were probably removed in Period 3.

6.23 SECTOR 3

6.23(1) *THE CURTAIN WALL Coded as* P2/1 *and* P2/2 *on the survey drawings*

In this short east-west stretch of wall along White Lion Street, the same building sequences and observations can be noted as in Sectors 1 and 2. The wall in this period, rising ca 5.8m, above the present pavement, can be divided into two major building stages (P2/1 and P2/2), as appropriately noted on the survey drawings for this sector. The arrowslits, low and with plunging cills, are consistently placed with crenels situated between them. Subsidiary building lifts are also very visible, and as in the other sectors, they are delineated on the drawings.

As pointed out in the Period 1 description, there is no clear access to the rear of the wall in this part of the town, due to the fact that the De Valence Pavilion has been constructed up against it. Therefore, we cannot be certain if an earthen bank ever existed before the

wall was constructed along White Lion Street. But an extremely short length of the rear of the wall is visible as the north wall in the Mayor's Parlour in the De Valence Pavilion (see drawing A65). Although the wall is covered by a probable Period 9 masonry addition, it does preserve the main feature which makes this stretch of wall distinctive, ie a solid masonry wall walk built in two apparent phases or stages, separated by a corbel table.

In describing the entirety of this wall to its present height, Laws wrote the following in one narrative when the wall was accessible in a public garden (brackets added):

> 'This wall is 50 yards (45.75m) in length, 25ft high (7.7m) on the outside, 20ft 6 inches (6.25m) within. The outer front shows two lines of looping and a crenellated crest. On the inside there is only one line of loops, for against the wall rests a solid block of masonry, 13ft 7 inches (4.1m) high and 4ft 6 inches (1.4m) wide, which covers up the lower line of loopholes.'
>
> 'This block of masonry is divided by a well-defined line of corbels and flagstones. From the ground to the corbels measures 8ft (2.7m); and the flagged walk, the edge of which shows above the corbels, would have been a very suitable elevation from which to use the lower line of loopholes seen from the outside. But when the second block of masonry was superimposed on the flagged walk, the lower line of loops was covered up and rendered useless, while the new walk on the top commanded the upper line of loops and the embrasures.' (19)

What Laws describes can only be easily seen today in photographs held in the NMR (20) taken just before the construction of the De Valence Pavilion. His observations cannot be checked, but stratigraphically he implies the following:

- First, that the low (Period 2) curtain wall was constructed, as has been observed in sectors 1 and 2 (though Laws never entertained the thought of their being an earlier earthen bank).
- Second, that the low wall had a block of masonry which rested ('rests') up against it, and thereby served as a wall walk.
- Third, that the low wall was subsequently raised.
- And fourth, that the wall walk was raised to serve the new higher crenels and arrowslits, and in so doing, blocked the Period 2 arrowslits by abutting

longitudinally up against them.

The one place where this stratigraphic sequence ought to be able to be checked is in the visible butt end of the wall at the junction of White Lion Street and Upper Frog Street. But here Period 10 consolidation works have obliterated any differentiation in the masonry, if it ever existed. Therefore, we can only take Law's description on face value. We can still presume that a Period 1 earthen bank could have existed behind the Period 2 masonry, but eventually it must have been removed and replaced with a low stone walkway - though in which specific period we cannot say.

It ought to be pointed out that Laws' assumption that the lower wall walk was of flagstone and carried on corbels, is probably incorrect. What he describes is only the corbel table upon which the heightening of the stone walkway was raised. The earlier walk would have been at the level of the bottom of the corbels (see drawings A58 and A65). For further comments see Periods 4 and 6.

6.23(2) ***TOWER C***

This tower, at the junction of South Parade and White Lion Street, is the sister to Tower H, at the south end of St Florence Parade (in sector 1). Both towers delimit the north and south extremities of the town's preserved landward defences during this period.

Like Tower H, Tower C is bonded with the Period 2 curtain wall, apparently on both sides. It appears to have been constructed on an outcrop of limestone which is visible on the tower's north side. The structure was raised in lifts which have been shown on drawing 36. In keeping with all of the mural towers - of all dates - the ground floor is considerably higher, than the street level outside. On the ground floor there are three, very tall arrowslits with plunging cills. They measure more than 2 metres in height on the outside, while inside their heights are ca 1.0m. Internally, their splays are on average 0.5m in width. They are not set in recesses or embrasures, and the circular wall of the tower is ca 1.2m thick. Whoever would have used the apertures to fire bows or crossbows would have been even more restricted than would have been the case when sighting through similar arrowslits in thinner walls, with embrasures. The arrowslits are very similar to those in the very much larger towers delimiting the Inner Ward at Cilgerren Castle, built by the Marshall earls between 1223, and probably 1241 (21).

Tower C is crude, and relatively bulky, compared to the later towers constructed in Period 3.

The first floor arrowslits are similar to those on the ground floor. They are quite long, and presumably had plunging cills. It can be conjectured that at this upper level the Tower's internal superstructure was stepped, and upon the step, beams would have been placed to support a timber floor (the beams could also have been inserted into pockets). This floor would have represented the Period 2 parapet level as delineated by the crenels blocked up in Period 4 and visible on the outside of the Tower.

The first floor arrowslits and step for timber flooring cannot be seen internally, since vaulting has been inserted at a much later date, and its presumed supporting stone work is now masking them. Drawing A67 illustrates a conjectural interpretation of the constructional phases of the tower at this level.

It is probable that this tower, like Tower H, was open backed. Tower H is illustrated as such by Norris in his Etchings, while in Tower C, the arris of a return is visible internally on the east side, where the present rear wall butts up against the carcass of the Tower. This is relatively high up and could illustrate that at least the Period 2 parapet level was open backed, if not the ground floor. Nevertheless, there could have always been a timber framed wall at the rear of the tower as has been suggested could have been the case in towers of the Outer Ward at Kidwelly Castle (22).

Before the curtain wall and Tower C was raised in Period 4, the tower shifted forward slightly, along its east side, and took with it a narrow fragment of the curtain wall. The crack representing this on White Lion Street is shown on drawing A35.

6.30 **PERIOD 3**(Second half of the 13th Century into the first quarter of the 14th Century) *coded as* P3 *on the survey drawings*

In the main this period is primarily reflected in Sector 2 by the construction of the Barbican Gate - 5 Arches Tower (E) and Tower D (Belts Arch). It is highly likely that a round tower contemporary to these was also added to the town wall in the same position

as the later Tower G (which was itself, an addition in Period 6) in Sector 1. The proof of the existence of this tower lies in negative evidence, therefore to facilitate its description the construction of Towers E and D in Sector 2 will be noted first. The addition of mural towers did not take place in sector 3 during this period.

6.31 SECTOR 2

6.31(1) *5 ARCHES TOWER (E) - THE BARBICAN (THE WEST GATE)*

This tower, more correctly a barbican and designed to be roofless, was imposed in front of Tenby's Period 2 West Gate, at the entrance to St George's Street. It is a relatively unique structure, with few parallells in Britain. The tower's probable derivation has been briefly pointed out by D J Cathcart King in recent publications (23). The tower was heightened after its initial construction. The precise dates are not known, but because the detailing of the raised section is so similar to that of the superstructure of the initial construction it is presumed in this report that the heightening was carried out in the same period. Therefore, both the lower tower or barbican, and its subsequent heightening are given the respective Period 3 designations of, P3/1 and P3/2 on the survey drawings, which are A49 to A57.

At ground level, the tower is made up of five arches (hence its name - the 5 Arches Tower) arranged in a slightly spread out horseshoe shape, and abutting the Period 2 curtain wall. Four of the arches are pointed, while the arch adjacent to the curtain wall on the north side of the tower is rounded, and is the entrance-way. The thickness of the wall supported by the arches is ca 2.25m, and the whole tower, or barbican structure, extends out from the curtain wall by ca 9.5m. The overall external width of the structure abutting the Period 2 curtain is ca 13m, and the gate to St George's Street is almost centrally placed - its parapet making up the rear wall of the barbican.

The arched gate on the north side of the barbican is ca 2.75m wide and it has an internal rebate. This was a recess for the doors of the gate which were harr hung, and whose upper sockets on both sides are still preserved at the approximate spring of the arch of the recess over the gateway. There are two holes for bars in both jambs of the gateway. These are relatively low, with the highest one set ca 1.0m above the present pavement

level. There is also a portcullis slot, or groove, in front of the bar sockets. The disposition of the remaining four arches are clearly shown in drawing A54. There used to be masonry, almost 1m thick within each arch, and these included arrowslits. The thinner walls filling in the arches created recesses, or large embrasures, in which to man the arrowslits. These were subsequently hacked out in the 1860's, and the two arches on the south side of the tower were broken through into one, presumably to ease traffic in and out of the tower, and St George's Street (24). The present pier supporting this part of the structure is modern (P9).

The arches support a P3/1 super structure which abuts and oversails the Period 2 curtain wall, and consisted of a parapet with an external wall, ca 0.5m thick and ca 1.8m high, provided with eleven arrowslits and ten crenels. On the outside the arrowslits are ca 1.25m high, and they have relatively plunging cills. There construction is much more uniform than in the curtain wall, and their cruciform shapes are very well preserved. The accompanying crenels are ca 0.5m high (or deep) by ca 0.6m wide. Internally, at the rear of the parapet there is another crenellated wall, looking over the open interior of the barbican. Here there were up to eleven crenels, and drains for the parapet walk. These crenels are virtually as wide as those in the external wall, but they appear to be deeper at ca 0.6m. There were no arrowslits in this rear wall. The parapet walk is ca 1.25m wide, and in it is the preserved slot for the portcullis, ca 3m long by ca 150mm wide (it is surrounded by a modern curb). The tower was constructed far more neatly than any other tower of similar date along the wall. Its stones tend to the sub-rectangular, and are well coursed. Relatively level building lifts are present, and these are delineated on the elevation drawings.

The 5 Arches Tower was constructed to oversail the Period 2 curtain wall just where the latter was higher over the West Gate; thereby diametrically sandwiching, the butt ends of the raised parapet over the St George's Street entrance, between the east ends of the horseshoe shaped superstructure of the barbican. These ends were also keyed into Period 2 crenels adjacent to the higher parapet over the West Gate, and these are pointed to by the fact that the oversailing points on the north side of the barbican, at least, are higher externally then internally (see drawing A52).

Access to the P3/1 parapet of the barbican was via the curtain wall, where it was oversailed by the north side of the tower. Of course, access to that level had to be

facilitated from the Period 1 earthen bank, or ground level, and it is suggested here, that to accomplish this the stone parapet walk presently behind the West Gate was added. The reasons for presuming this masonry to be a later addition to the Period 2 gate, have already been stated in 6.22(2). On simply stratigraphic grounds, the parapet walk appears earlier than the barbican. But we cannot be truly certain, because of the present condition of the structure, whether it was added as part of the P3/1 barbican complex, as has been noted on the survey drawings, or was a feature primarily associated with the raising of the barbican in P3/2.

The stone parapet structure added behind the Period 2 West Gate, and over the entrance to St George's Street, is ca 2.25m wide. At walkway level the length was probably only ca 5.25m, represented by the extent of the crenellated parapet wall on corbels, overlooking St George's Street, which was possibly added at a later date, but this is conjectural. The arch supporting the walkway is ca 4.1m above the present street level, but it is shallow compared to the Period 2 archway to St George's Street. There are, what are probably filled in sockets for harr hung doors at the spring of the arch, at the join of the jamb of the archway and the earlier Period 2 wall (see drawing A57). And in the south jamb there is a horizontal recess, presumably to accommodate the bolt or bar for the doors, when they were open. A socket presumably for a bar, also exits in the south jamb ca 400mm above the street level, but a matching socket is not visible in the north jamb. It is quite likely that it has been obliterated in the masonry patching which has been carried out on the gateway over the years, and noted in the Period 2 description.

Norris' Etchings show no stairs leading upto the parapet from the street level (25), as is the case today. But later in the 19th Century stairs were provided, and they are clearly visible in archive photographs held in the NMR (26). They appear to have been in the position of even earlier steps presumably (predating Norris), for the wall is very crudely faced at this location, as if the stonework was cut back in the very position of the photographed stairs, suggesting that an earlier stairway was bonded with the masonry of the gateway parapet, and then cut away, to eventually be replaced in the 19th Century. These stairs, no matter what their date, led to stairs noted on the survey drawings (see drawings A53 and A55) as the 'lower stairs'. These rise southwards, onto the stone parapet walk over the gateway, with which they are integrated, and in turn are overlain by masonry, upon which are the 'middle stairs' leading to the P3/1 parapet walk of the barbican. This part of the gate complex is at present heavily covered in creepers, and

plants are growing out of most interstices. This makes interpretation very difficult. In the light of this, it must be noted that the middle stairs appear to abut masonry which is integral with the heightening of the 5 Arches Tower (P3/2). This could possibly mean that the middle stairs had to be removed to facilitate the construction of the upper storey and they were later replaced, or more likely, the access from the stone parapet into the P3/1 barbican parapet was originally arranged differently. It would not be inconceivable for this interpretation to alter however, once the creepers and accumulated humus are cleared from this part of the gateway complex.

Sometime later in Period 3, the 5 Arches Tower was raised (noted as P3/2). It is proposed here that this heightening was not necessarily associated with the raising of the curtain wall in Period 4, as was apparently the case with the other mural towers. The reason for presuming that the barbican was raised in Period 3 is primarily stylistic (even though arguments based on stylistic grounds can be weak). When Towers C and D were heightened, parapets on corbel tables were added. Also when Tower H was raised, its relatively crude Period 2 style was apparently carried up to its raised parapet. But the style of the masonry of the heightened 5 Arches Tower is distinctive. It virtually mimics the detailing of the original tower. The new P3/2 stonework, like that of P3/1 is relatively neat, and not consisting of mostly random rubble, as in the rest of the town's defences. More of the stones are sub-rectangular, and the jambs of the apertures well defined. There is also a uniformity in the shape of the cruciform arrowslits, specific to this structure. Intuitively, this suggests that the agency responsible for the initial construction of the tower, was also responsible for its heightening. And this could perhaps have been carried out in an adult's lifetime.

Since the tower is a gate, it could have been singled out for special architectural care. It could have been heightened earlier than Period 4 because of a belief that a gate should be 'seen'. It shows off the wealth and power of a town and / or fortification. By making the 5 Arches Tower two tiered it showed off its truly offensive capabilities while at the same time, superficially appearing like a large keep like mural tower. To this end, the barbican was raised from ca 6.8m above the present pavement level, to ca 8.8m. This is ca 34.1m O.D., and ca 4.25m higher than the Period 2 South Parade curtain wall, and ca 5.3m higher than the corresponding curtain along St Florence Parade. The structure must have truly towered over the stone and earth defences of Period 2. The symbolic nature of such a gate must not be overlooked for warding off enemies, and for giving

succour to its inmates.

As already stated, the new upper reaches (P3/2) of the tower mimicked the features of the P3/1 edifice. The earlier parapet walk around the tower was converted into a covered gallery, with a vaulted ceiling constructed overhead. This was supported on corbels placed at, presumably, the uppermost levels of the P3/1 parapet walls - internally and externally (see drawings A52 and A57). The inserted corbelling is very similar to the 'tusks' in the apparently unfinished curtain wall between Westgate Tower and Monkton Tower at Pembroke Castle; these tusks were supposed to support the vaulting of a covered fighting gallery which was never completed (27). On top of the vaulting added to the tower, a new parapet walkway was constructed at ca 7.5m above the present street level, ie ca 32.8m above O.D.. An external parapet wall was constructed, which is preserved at ca 1.4m higher than the parapet walk. In it there are eleven crenels and twelve arrowslits. The latter have sloping cills. Crenels were also provided at the eastern butt ends of the walkway. A parapet wall was provided internally, looking over the open interior of the barbican. But all of its apertures have been removed, presumably when the wall was levelled to carry a monopitch roof which covered the parapet walkway when the gallery below was used as a powder magazine in Period 9.

Access to the raised, P3/2 parapet walk was provided by a stairway, noted as the 'upper stairs' on the survey drawings. This was constructed on top of the masonry walk added to the West Gate, and it was flung outwards from the Period 2 parapet wall. This structure was supported by a shallow arch which presumably was keyed into the P3/1 masonry of the barbican at the earlier parapet level, and it is highly likely that it joins the earlier masonry at the position of a crenel. The shallow arch has been supported in Period 9 by stone slabs and iron bars. The parapets for the upper stairs are quite denuded now, and they are covered in vegetation.

In all, the 5 Arches Tower (E) - the Barbican, is an impressive structure. In the traffic filled streets of modern Tenby it appears quite innocuous, but when it was constructed it must have been a state of the art fortification.

6.31(2) *TOWER D, BELT'S ARCH TOWER*

Like the 5 Arches Tower, this tower was an addition to the Period 2 curtain wall, its

superstructure was supported on arches sprung out from the top of the earlier Period 2 curtain wall. Laws succinctly described the tower's construction thus: 'Two round-headed arches were thrown out from the wall ...., somewhat after the fashion of huge flying buttresses; these were connected together by a third arch, all three were then filled in with masonry, but not the their full thickness, recesses being left, and the whole was covered in with a vaulted stone roof' (28). But unlike the 5 Arches Tower, this structure was made of relatively random rubble limestone, just like the earlier curtain wall, and its subsequent heightening.

Drawing A63 illustrates the way in which the tower was constructed, abutting and oversailing the Period 2 curtain wall. With the curtain dropping from north to south, it is evident that localised levelling of the top of the earlier wall was undertaken, to facilitate the construction of the east to west arches making up the north and south sides of the tower. This included the filling in of an arrowslit and a crenel, and the raising of vertical masonry from which to spring the arches. An internal scaffolding cage was used, as evidenced by the visible put-logs, and these, besides providing platforms for the masons, must have supported the forms for the arches whose surfaces are still visible in lime mortar, adhering to the undersides of the arches. A doorway was broken through the Period 2 curtain wall, but the precise outline of its cut through the wall cannot be delineated. This is due to the great amount of grime and car exhaust deposits which are on the walls within the ground floor of the tower.

The ground floor was broken through in 1784 (29) to facilitate a rope walk, removing the recesses on the north and south sides. Presumably, there were two arrowslits in both of these recesses (making a total of six), as approximately outlined in drawing A61.

Between the arches supporting the superstructure of the tower is a shallow vault, upon which is the present first floor of the tower, originally the parapet level in this period. Drawing A60 shows that the tower was open backed at parapet level, and access to this upper level must have been by a rear ladder or stairway, from the presumably preserved earthen bank of Period 1.

The parapet was ca 1.5m high, and included seven arrowslits, and probably six crenels the latter are barely visible (see drawings A42 and A61). This tower, rising on average ca 7.25m above the present pavement level was most probably mirrored in sector 1, at

the site of the present Tower G. As already noted, this other tower is suggested only by negative evidence, and it is described in the next part of this report.

6.32 SECTOR 1

On both sides of the later Tower G (see drawings A10, A13 and A22), there are clear vertical joins in the masonry of the Period 4 curtain added above the Period 2 wall. It is quite possible that these could easily outline the position of a tower which abutted and oversailed the early Period 2 stone defences.

The description of Period 4 will primarily be the account of the raising of the town walls, but any new masonry built on top of the Period 2 wall as heightening, would have to abut any tower which was already oversailing the wall. This could very well have been the case in this instance. However, at a later date (Period 5), the tower was removed leaving a void outlined by the two vertical wall edges which used to abut it. The gap was subsequently filled in, and at a considerably later date, Tower G was added to the wall by accident or by design, at the very location of the earlier tower. For descriptive purposes this early tower will be labelled Tower G3; G for being in the same position as the later Tower G, and 3 for being ascribed to Period 3.

6.40 PERIOD 4 (From the second quarter of the 14th Century to the 15th Century)

coded as P4 *on the survey drawings*

This period marks the raising of the town wall to the height visible today. The wall was heightened in four building stages but these are most obvious in Sector 1. The towers (except perhaps The 5 Arches Tower, E)had to be raised as well to accommodate the new parapet levels, which vary from sector to sector. Also, as in Period 2, we can still presume that the wall had its southern termination at the Belmont Tower (H). But the doubt on this, noted in footnote 16, should still be heeded.

6.41 SECTOR 1

6.41(1) *The Curtain Wall*

Along St Florence Parade, the curtain wall has been raised to an average height of almost ca 31.5m above O.D., or more than ca 6.7m above the average level of the street. The raised masonry consists of random limestone rubble, but the individual stones tend to be larger than in Period 2, and this is clearly visible in the front elevation drawings for this sector. The wall has been repointed haphazardly over time (the application of a render cannot be discounted), nevertheless the stones are probably bonded in a lime mortar matrix. There is also more building to courses than was visible in Period 2, and vertical gang breaks are present. The coping is rounded yet triangular in section, but it has probably been re-made in the modern period (P9). The thickness at the preserved top of the Period 2 wall was more or less sustained, but at the newer, higher coping level. The wall is narrower by only a few centimetres.

The new higher masonry abuts the 5 Arches Tower (E) where it oversailed the lower curtain wall. The raised wall must have also abutted the probable Tower G3 on both its north and south sides, where it too must have oversailed the earlier curtain. In fact, the raised curtain on the south side of the position of Tower G3 is ca 0.4m lower than the raised wall which abutted the north side of the tower. This is a similar relationship to that of the Period 4 walls raised up on both sides of the 5 Arches Tower (E) and Tower D. In these instances the northern wall is higher than the southern one. This obviously reflects the general slope of the ground downwards from north to south, and in such circumstances it would have been logical to step the wall tops where they joined with the mural towers, which punctuated the wall.

6.41(1a) *Stage 1 coded as* P4/1 *on the survey drawings*

It is quite likely that before the raising of the curtain wall, the lower, Period 2 wall had fallen into partial disrepair in this sector. This is suggested by the apparent unevenness of the earlier wall top, whereby in places there are irregular hollows where crenels of Period 2 ought to be evident - but they are not (see drawings A01 and A06 to A09).

It is obvious that before the wall was raised, the remains of the early wall coping would

have been removed, and the crenels and hollows filled in. Such infilling was carried out by rubble stonework being built to course; and once a relatively even level was reached, the first real building lift was commenced. It should be noted that there are some putlogs associated with this stage (see drawings A06 and A07).

6.41(1b) ***Stage 2*** *coded as* P4/2 *on the survey drawings*

Once the depressions in the Period 2 wall top were levelled up, the first lift to the putlogs visible on the external elevation was constructed. These were through putlogs, but a small number have been filled in flush with the wall, while on the rear of the wall, some have been blocked in modern times.

The putlogs at the top of the lift are all, more or less, at an average level of ca 29.8m above O.D. at their bases. They are therefore, ca 1.7m beneath the average top of the finished wall. Their dimensions are ca 150mm square.

6.41(1c) ***Stage 3*** *coded as* P4/3 *on the survey drawings*

With the above completed, the putlogs were formed by laying timbers at right angles across the stage 2 masonry. Stones were then laid adjacent to, and over the timbers. They were then kept in place during the raising of the wall and would have served as part of a scaffolding system to facilitate construction. However, this was probably not their only envisaged purpose. Subsequently, the wall was raised to a height just below, or in line with the cills of the upper arrowslits visible between the crenellations at the top of the wall. In two places, at what is the interface between this stage and stage 4 there are pairs of extra large putlogs (see drawings A06 and A08). Their dimensions are ca 270mm square, and they lie at an average of ca 0.35m above the main horizontal line of putlogs. They must have taken stout timbers, and their probable purpose is described below.

6.41(1d) ***Stage 4*** *coded as* P4/4 *on the survey drawings*

The top of the Stage 3 lift served as a base upon which to build the crenels, merlons and splayed arrowslits of this period. The slits vary in height, but they average at ca 0.75m. The crenels also vary in size, and the lengths of the merlons between them start at ca 5m

just south of the Five Arches Tower (E), and get progressively less the closer they are to Tower G, and the probable Tower G3, where the length is reduced to half. At ca 5m north of Tower G there is a garderobe that is integral with this lift. It projects out from the wall on two cantilevered corbels, but most of its structure is missing. From the rear it is obvious that it has undergone much consolidation work in modern times.

It is very hard to comment on the build of the wall south of Tower G, and the probable Tower G3, since in all likelihood, much of the wall on both sides of the Belmont Arch (National Grid Reference: SN 13430024) could have been reconstructed in the last century.

6.41(1e) *The Line of Putlogs*

As already pointed out, the line of putlogs demarcating the transition between stages 2 and 3 probably had a purpose other than that of providing scaffolding. It is suggested here that they held timbers which supported a timber walkway at parapet level. There is no real evidence for a stone walkway which was contemporary with the heightening of the wall during this period. Therefore a wooden *alure* must have been the only access to the upper arrowslits and crenellations.

Such a walkway could have easily been constructed as part of the raising of the wall. The timbers could have been cantilevered and subsequently supported by brackets. These need not have been keyed into the wall for which there is no evidence, but held in place by the weight of the walkway itself. However, it is most likely that supporting posts could have been used - resting on stone pads or sunk into the Period 1 earthen bank which probably still existed, giving access to the lower arrowslits (see drawing A69).

It is not inconceivable for the timbers in the putlogs supporting the walkway, to have projected outwards to support permanent hoardings. With Tenby exposed to the sea, such hoardings would have protected the parapet from deterioration by the elements, and given shelter to whoever manned the walls. But complicating the matter in this sector are the two pairs of larger putlogs which must have taken stout timbers and are positioned above the main, continual line of putlogs. They are not inserted in the wall, but integral in its construction, and they are not aligned with any of the smaller putlogs immediately

below them. This apparent structural independence suggests that these putlogs could have supported small localised hoards or bretasches (brattices) which were purposefully placed along the top of the Period 4 wall, instead of what could have been a long run of hoarding, covering the parapet from Tower H to E, and into sector 2. The modesty of their configuration and disposition lends credence to this proposition, and evidence in sector 2 is very supportive. They are drawn as rectangles, in broken lines, on drawings A06 and A08.

6.41(2) *THE BELMONT TOWER (H)*

As previously discussed, it is very hard to comment on the structural phasing of this tower. We can only presume that it was raised to accommodate the raising of the Period 2 wall. However, there is a curious bonding of the raised curtain with the tower, but this is probably attributable to Period 9. As already noted, no early line of crenels in the tower is noticeable, nor is there an obvious change of build. But presumably in this period, the top of the tower was provided with the four crenels, and the minimum of three arrowslits presently visible today (see drawings A14 to A16).

6.42 SECTOR 2

Along South Parade the Period 2 curtain wall was raised on average to ca 35.5m above O.D. north of Tower D, and to ca 32.7m above O.D. south of Tower D. The difference in height between these two stretches of wall reflects the fact that South Parade slopes downwards to the south, and to compensate for this, (while building a wall with a relatively level top), the builders stepped the heightened curtain where it abutted the pre-existing tower. This was also the case at Tower G3 in Sector 1. Subsequently Tower D was raised to accommodate the new, higher parapet.

The building medium for the wall has not changed, it still consists of coursed random limestone rubble in a probable lime based matrix. The stones are of a size comparable to those in the Period 2 wall. There has been differential re-pointing applied to the wall, but evidence in sector 3 may very well point to the wall being rendered sometime after it was heightened.

6.42(1) ***THE CURTAIN WALL***

In Sector 1, there were easily observable building stages in the raised masonry of this Period. These were punctuated by the filling in of the Period 2 crenels, a continuous line of putlogs, and new upper arrowslits. However, in this sector, the same building stages are more or less present, but not clearly visible, and this is primarily due to the trees presently rising from the pavement along South Parade and masking the view of the top of the wall. Also, their extensive branches have made ladder access extremely difficult. Nevertheless, the raising of the wall in this period can still be described in stages.

6.42(1a) ***Stage*** *1 coded as* P4/1 *on the survey drawings.*

Throughout the whole length of the curtain wall in this sector, the P2 crenels were filled in. In only two places are there irregularly shaped crenels to suggest that the wall was in partial disrepair in this sector before Period 4. But their irregular outlines could very well have been caused by the very building works required to raise the wall to the height we see today (in fact, a through putlog was situated in one of the crenels).

6.42(1b) ***Stages 2 to 4, north of Tower D*** *coded as* P4/2-4 *on the survey drawings*

These building stages have been described quite well for sector 1. However, because of the present tree cover they could not be delineated on the survey drawings. Nevertheless, the line of putlogs at the interface of stages 2 and 3 have been plotted (30), as well as the upper arrowslits. The wall top could be easily reached from the rear, between Cobourg House and Tower C, and there it was observed that a number of arrowslits had plunging cills and what could best be described as stepped heads. In general, the arrowslits are not very different from those recorded in sector 1, although all of the slits in this sector, are more or less in line with the Period 2 arrowslits below them. This is in contrast to those in sector 1, where the majority are misaligned with the earlier slits below them. Also some of the merlons appear 'squeezed' the closer they are to Towers C and D.

6.42(1c) ***The Line of Putlogs, north of Tower D***

The main line of putlogs visible north of Tower D is at an average of ca 1.5m beneath the top of the raised wall, and most probably provided a timber parapet walk. As in sector 1, the newly raised wall is quite thin (ca 0.5m at Cobourg House) and the walkway was either cantilevered or most probably supported by posts.

Above the line of putlogs, and approximately equidistantly placed along the length of the wall between Towers C and D are three groups of putlogs positioned ca 0.6m above the level of the presumed parapet walk. Their dimensions are ca 200mm square while the putlogs for the wall walk are slightly smaller at ca 150mm square. Two of these groups consist of three putlogs in a line, with the south most group consisting of four. The putlog at the north end of this last group is slightly higher than the rest, and it may not be related to the other three. But no where else in the wall is there such a singular putlog, therefore it is probably integral with the group. Like the two pairs of large putlogs in sector 1, these beam pockets probably took timbers to support localised hoards (bretasches) designed as an integral part of the wall when it was raised (see drawings A38 to A40 where the outline of the hoards are shown in broken lines, and The Discussion and Summary at the end of this report).

6.42(1d) ***Stages 2 to 4 South of Tower D,*** *coded as* P4/2-3 *and* P4/4 *on the survey drawings*

As already noted, these building stages have been very adequately described for sector 1. However, in this southern stretch of sector 2, stages 2 and 3 have been combined. Instead of raising the Period 4 masonry towards halfway up its intended height, and then positioning timbers, to presumably serve as scaffolding as well as a finished parapet walk, the builders laid their timbers directly onto the levelled top of the period 2 curtain wall. In fact, this sequence of construction was extended ca 21m north of Tower D where there are three lower putlogs, vertically in line with upper ones - evidence of their use for scaffolding.

With transverse timbers in place at the virtual base of the Period 4 heightening, new masonry was then raised up to the cills of the upper arrowslits, whereupon the stonework was made relatively level, and ontop of which , the stage 3 merlons and

crenels were constructed.

The top of the wall is ca 0.55m wide at the rear of Clarice Toy Shop, and it is not at all dissimilar to the stretch north of Tower D. Here merlons give the appearance of being consistent in length - at an average of ca 4.6m. This is roughly a third of a metre longer than the average merlon north of Tower D. The arrowslits are also in line with those of Period 2.

There is a curious feature in the front of the wall, in stage 4, just above the P9 door to the rear of Clarice Toy Shop (see drawing A47). It is a niche which Laws states was a limestone window surround, presumably salvaged from a ruined ecclesiastical site and inserted into the wall during the repairs of 1588 (Period 7) (31). There is no real reason to support Laws' period attribution for this feature, but a local historian has provided us with an anecdotal explanation for the niche. Before the nineteenth century, the sand dunes behind the South Beach were not in existence, and instead there was an inlet known as the Pill (or Backwater). This was a natural landing place for the town (in addition to the sheltered harbour of today) (32), and sailors and merchants would approach the town up what is now known as Park Road, whereupon before entering the town through the 5 Arches Tower (E) they would pass under a religious statuette, and presumably give thanks for their safe arrival (33). How true this is, we will never know, but it is not implausible.

6.42(1e) *The Line of Putlogs, south of Tower D*

With transverse timbers set low, directly ontop of the Period 2 masonry, the accompanying timber wall walk was uncharacteristically low at ca 2m beneath the coping. This level of parapet walk is sustained between Towers D and E, but it is possible that an attempt was made to raise the wall walk near the latter. In the rear of the town wall behind Clarice Toy Shop and Pennington (NGR SN13340021), shallow pockets have been hacked out at ca 0.6m above the line of the lower putlogs. These could have taken beams supported on posts which could have carried a wall walk. To strengthen this view, there are no tell-tales on the wall, to point to these being associated with a building constructed up against the curtain. Nevertheless, it may be pointed out that in no other location where the rear of the wall could be investigated, ie through the Period 9 doorways broken through the curtain wall, can other examples of these

secondary pockets be observed. Presumably this could have possibly been a localised raising of the wall/walk in the vicinity of the 5 Arches (Tower E) Gate.

6.42(2) *TOWER D, BELT'S ARCH TOWER*

With the raising of the curtain wall, up alongside, and abutting Tower D on both its north and south elevations (see drawing A60 which illustrates the relationship of the raised curtain wall, in particular to the north side of the Period 3 tower), it must have been obvious that the tower would have to be raised to preserve its command over the heightened curtain wall. To accomplish this, a scaffolding cage, whose putlogs are still preserved, was erected on the stone parapet level of Period 3. Apparently, the exterior D-shaped walling of the tower was heightened first, incorporating an internal offset at corbel level. The rear wall was then constructed in lifts. It abuts the side walls of the tower internally, and externally where it fills in the rear of the open backed Period 3 parapet. Higher up, it is crudely keyed into the external, visible ends of the D-shaped walling of the tower. The new higher parapet was provided with crenels and arrowslits; five of the former survive, accompanied by at least two of the latter. These are along the rear of the tower, as well as the front.

Internally, along the rear wall of the heightened tower, there is an offset, just ca 0.4m beneath the corbel offset (see drawing A63) and upon this, east to west timbers, whose pockets are still preserved, must have been placed. Their matching pockets which presumably existed in the western side of the tower are presently masked by the masonry of a late inserted shelter. The timbers, presumably supported transverse, north to south beams, which in turn must have had planking laid over them - thereby making up the new parapet platform for the heightened tower. Drains were provided between the corbels supporting the new parapet wall. The floor structure just described must have been quite robust, and floors of similar constructional simplicity have been observed in eg church towers (34). Access from the first floor was probably by an internal ladder or wooden stairway.

With the Period 3 parapet level now enclosed as a first floor, access to it from the new parapet walk provided for the raised curtain wall, could have been accomplished through a door in the position of the present arched doorway (see drawing A60 and A61). This part of the tower has been very hard to interpret during the time in which this sector was

surveyed, primarily due to the great mass of creepers externally on the rear of the tower, and the internal alterations undertaken at a later date, probably in Period 9. Nevertheless, evidence which can be interpreted as an infilled emplacement for a timber doorway lintel can be discerned, along with a probable jamb outlining the north side of an aperture into which the present arched doorway was inserted. However, if this truly does represent an original access to the Period 4 first floor of this tower, then it must have been a very low portal, measuring only ca 1.2m above the first floor level. It is always possible that a stairway was cut into the fabric of the vaulting making up the southern part of the tower at this level, so as to ease access - but this is conjecture. The difficulties of interpreting this part of the tower have been compounded by the fact that the bottom of the doorway has been filled in with concrete, a modern metal plate has been inserted as a step, and the masonry beneath the inserted archway has partially fallen away. If consolidation works are undertaken here by SPDC, then this area could benefit from further archaeological investigations.

The arched doorway is curious, and as already pointed out, is believed to be a late insertion. It is probably associated with the flaring out of the south end of the interior of the rear wall of the tower, at first floor level. Drawing A61 shows how this alteration blocked up a Period 3 arrowslit, and drawing A60 illustrates how the arched portal fronts the doorway which internally has a head of rough voussoirs (see drawing A63). The date of this alteration can only be conjectured, but it may be associated with the rendered masonry shelter which has been built within the tower, on the first floor. It is probably out of place to discuss this shelter in this Period description. But since there is no way of dating the structure, it might as well be briefly described here.

Drawings A61 to A63 show the disposition of the inserted shelter. Presumably, it was constructed in a period when a complete parapet platform was not required, since there are no visible beam pockets as part of the structure of the shelter which could have received timbers projecting from the rear of the tower. The construction of the shelter blocked up three arrowslits, and was provided with a fireplace and chimney. Past consolidation works at parapet level have obscured the presumed alterations which must have been carried out to insert the fireplace's chimney, whose flue has been cut into the wall of the tower. The shelter was vaulted, and part of the very front of the vaulting has fallen away. There is no surviving evidence of a timber doorway or screen closing up the shelter. Therefore it may not be extraordinary to think of the shelter as associated

with attempts to turn the tower into a folly. The stairs leading up to the top of the shelter are picturesque, as is the inserted 'Gothic' doorway already described in the rear of the tower. An additional 'mock' arrowslit was also inserted. As already pointed out, these alterations cannot be dated. Therefore, on the accompanying survey drawings they are noted as belonging to Period 9 (see the Period 9 description for this sector, for further comments).

6.42(3) *RENDER ON THE TOWERS*

On the north and northwest sides of the 5 Arches Tower (E), there appears to be the remains of what is probably a lime render. In photographs taken more than forty years ago (35) a similar layer is apparent on the north and northwest sides of Tower D. The skim of material is very hard on the 5 Arches Tower (E), whether it represents an accumulation of weathered lime washes, or was applied as a putty, or a plaster 'daub' cannot be said at present. It is also possible that the layer is the result of excessive flush pointing, renewed over time. But it could probably be argued that there must be a point when flush pointing, for all intents and purposes, becomes render. The Period 2 wall in which the West Gate is situated, inside the 5 Arches Tower (E), is also apparently rendered, or very heavily flush pointed. This has made the delineation of building details in the survey drawings relatively difficult.

Of course, the probable render just described could belong to Period 9. But it should not be considered out of place to propose that at least part of Tenby's fortifications could have been rendered in the 14th Century. At Conway 'daub' was applied to some of the battlements (36), and most assuredly other examples could be found. Evidence described in sector 3, also supports this proposition.

6.43 SECTOR 3

Along White Lion Street, the Period 2 curtain wall was raised on average to ca 7.75m above the level of the present pavement. Tower C was also raised, and the corbelled parapet present today was probably added (see drawings A35, A36 and A67).

6.43(1) ***THE CURTAIN WALL*** *Coded as* P4/1, P4/2-3 *and* P4/4 *on the survey drawings*

The Period 2 curtain wall is higher along White Lion Street, than in sectors 1 and 2. Presumably because of this, the sequence of building stages carried out in raising the wall, have resulted in being similar to those undertaken for the stretch of wall south of Tower D in sector 2.

To start, as in sectors 1 and 2 the Period 2 crenels were filled in (P4/1). In conjunction with this the coping for the Period 2 wall was presumably removed, and upon the relatively levelled wall top, transverse timbers were placed. Initially, these would have served as scaffolding, but as in the rest of the landward defences, they would have eventually carried the wall walk. Masonry was then raised (P4/2-3) to the level of the arrowslits, which in this sector have plunging cills. Subsequently, the wall was raised further (P4/4) to construct the crenels and merlons visible at the top of the wall where it is ca 0.5m wide. These features, including the arrowslits line up inconsistently with those of Period 2. Also, because of the abrupt break of the wall at Upper Frog Street, the right jamb of a bisected arrowslit is visible in the irregular outline of the east end of the front elevation.

The newly heightened curtain abuts Tower C (as does the raised masonry of Period 4 on South Parade), save at the very top where the level of the wall is greater than that of the corbelling, which has contemporaneously been added to the Period 2 Tower to support the new Period 4 parapet (see below). To accommodate this, what can best be described as a bridging stone has been placed across the join of the raised wall and tower, at the level of the corbel table on the latter. This is schematically shown on drawing A35, while drawing A66 shows how it has affected the outline of the plan of Tower C at parapet level.

6.43(1a) ***The Line of Putlogs***

As in sectors 1 and 2, there is a line of putlogs, averaging around 2m beneath the coping of the curtain wall. The majority of them do not go through the body of the wall, therefore many are only visible on the internal face (see drawing A68). As already pointed out, this line of putlogs must have held timbers supporting a wall walk.

The arrangement of such a wall walk in sectors 1 and 2, has been conjectured and illustrated in drawing A69. But this drawing shows the wall walk supported by posts which rise from the Period 1 earthen bank. If Laws is correct (as noted in the Period 2 description) in stating that in this sector there was a low stone wall walk either bonded with or abutting up against the P2 curtain, then the constructional elements of the higher timber walkway would have been quite different. In essence, Laws' stone walkway serving the lower Period 2 arrowslits would have been converted into covered timber gallery. The gallery structure would have probably consisted of a longitudinal base plate laid at the edge of the earlier masonry wall walk, upon which stood posts, which in turn would have supported the transverse timbers of the wall walk. As in sectors 1 and 2, the transverse timbers embedded in the curtain wall, could have had longitudinal timbers, linking them together and supporting planks. Such a constructional arrangement would have preserved access to the lower arrowslits, while serving the new battlements of the heightened wall.

At Manorbier (37), very close to Tenby, there is very strong evidence for a similar timber gallery, raised upon an earlier masonry parapet walk, along the South curtain. Here the crenels of the earlier wall were filled in, leaving the arrowslits open, while on top a flimsy wall was constructed. This higher masonry incorporated a line of putlogs at an appropriate level for a wall walk (also, there is a line of putlogs directly ontop of the earlier curtain wall, presumably for scaffolding, as is the case in parts of the wall in Tenby). The similarity with Sector 3 in Tenby is quite striking, therefore the construction of the timber framing for the new, higher wall walk at Manorbier, must have been similar to that suggested above. As at Tenby, the lower arrowslits would have continued in use, while the heightened wall would have been equally served by the new timber walk way. For further comments however, see Period 6.

6.43(2) ***TOWER C***

With the raising of the curtain wall in this period, it was incumbent to raise the superstructure of Tower C. The Period 2 crenels were filled in (see drawing A36), the parapet level became a first floor, and the wall was raised by ca 0.5m. Upon this a narrower parapet (ca 0.6m wide) was constructed, which projected on corbels, and the tower was raised to more than 9.5m above the present pavement level. This contrasts with the height of this tower in Period 2 which was atleast ca 6.75m above the pavement.

From the interpretation outlined in drawing A67, showing an approximate east west section through the tower it is presumed that the new higher parapet platform must have initially been constructed of timber. We can only presume that in this period the rear of the tower was open, or timber backed. It is estimated that there are at least six drains through the corbelling supporting the parapet, but they are all blocked at present. It is also very hard to estimate the numbers of crenels and arrowslits in the new parapet. Perhaps this is due to the summer house that was constructed on top of the tower in Period 9, and which altered the top of the structure according to Laws (38). It would not be inconceivable for the merlons and crenels to have been rearranged during such an occupation.

6.43(3) *RENDER ON THE CURTAIN WALL AND TOWER C*

As already noted in sector 2, the remains of a probable render have been observed on Towers D and E (the 5 Arches Tower). In this sector, a render is most evident on the north and east sides of Tower C and it is relatively obvious on the curtain wall itself. It appears to be white, it is very hard, and it is certainly lime based. Whether it represents an accumulation of weathered lime washes, or was applied as a putty, or plaster 'daub' cannot be said at present.

It could be argued that what is visible, especially on the curtain wall is excessive flush pointing (as has been noted in sectors 1 and 2). But when does flush pointing become render ? When does the act of spreading excess mortar from joints in random rubble stonework become, for all intents and purposes, a protective layer of lime and sand ? There is no space to discuss this issue in this report, but the probable render in question is extensive on Tower C, and it has in places, obscured stonework of Periods 2 and 4 on the curtain wall. Therefore, since a comparison can be made with Conway, where 'daub' was applied to some of the walls and towers, it is proposed for discussion at least, that a render was applied to the masonry in this sector and sector 2 in this period.

6.50 **PERIOD 5** (from the middle of the 14th Century to the 15th Century) *coded as* P5 *on the survey drawings*

The two events attributed to this period may not necessarily be linked. However, it is not inconceivable for them to be related to each other. These events are only in sector 1.

6.50(1) ***THE DISMANTLING OF TOWER G3***

Sometime after the raising of the wall in Period 4, the probable Tower G3 was taken down. When this occurred, the raised curtain which had abutted it on its north and south sides must have delimited a void of ca 7.8m wide by ca 2.5m high in the upper part of the wall. This obviously had to be filled in, therefore a patch of new walling was constructed to fill the gap. This was very similar to the earlier masonry in the raised curtain of Period 4. It probably included 3 crenels and 2 arrowslits, and they were all constructed, more or less to the same proportions as those already existing in the upper part of the wall. The profile of the wall was built to match that of Period 4, and putlogs were included for the continuation of the timber parapet walkway.

There is a peculiarity to this new wall section however, and that is the two integrated, vertical projections which rest on corbels at the north and south limits of the patch, where it abuts edge on edge with the masonry of Period 4. They are positioned ca 0.6m above the remains of the Period 2 wall and they are ca 0.3m deep by ca 0.3m wide. They taper near their tops, and the corbels which they rest on are at a level comparable to that of the putlogs. It has been suggested that they are somehow linked with a timber framed building associated with the Square Tower (G) (39). But the projections show no signs of being fashioned to receive or support timbers in anyway. Also they, like the masonry they are bonded with, predate the construction of Tower G, therefore the suggestion cannot be supported.

The presence of these projections, and their purpose, cannot as yet be explained. They are an anomaly which is linked with the patching of the curtain wall after the dismantling of Tower G3.

6.60 **PERIOD 6**(The 15th Century) *coded as* P6 *on the survey drawings*

This period heralds what would have probably been described at the time as the modernisation of Tenby's defences. In Sector 1, the Square Tower (G), a block house type structure designed as an artillery fortification was presumably added to the curtain wall, ca 28 m north of the Belmont Tower (H). A Period 2 crenel north of Tower G had its Period 4 infill knocked out, and was converted into a probable gun port.

Other structural developments occurred. We cannot be certain if they were related to the above, but they can quite readily be attributed to this period. They mark a change in the make-up and nature of the defences. They included, the addition of a stone arcaded parapet walk to the curtain wall in sectors 1 and 2, and the extending of the defences along St Florence Parade more than 12 meters from the Belmont Tower (H) to a new Turret (I) overlooking South Cliff.

There is documentary evidence clearly relevant to the structural alterations to the walls in this period. In 1406 a Thomas Phelip received a grant form the King for 200 lbs of saltpetre for the defence of Tenby. This probably related to artillery (40). On December 1st 1457 Jasper Tudor, Earl of Pembroke, ordered that the walls of Tenby be made 6 feet thick with the moat maintained at a width of 30 feet. This was in response to a proposal by the Mayor and Burgesses that the walls should be thickened to 6 feet, thereby providing a continuous wall walk (41).

6.61 **SECTOR 1**

6.61(1) ***THE GUN PORT NORTH OF TOWER G***

Structural evidence suggests that there was at least one artillery piece accommodated in the curtain wall, prior to the building of the stone arcaded parapet walk. Just over 5m north of Tower G, and peculiarly situated beneath the only garderobe in the curtain, a blocked up Period 2 crenel was re-opened, and what is probably a round artillery port was inserted. The aperture made for its insertion was slightly larger than required,

therefore packing stones were placed on top of the port and on its south side, filling the gap between it and the Period 4 masonry above, and the gap in the original crenel on the side. The outside dimension of the port is ca 0.48m square, and the internal opening is ca 0.28m in diameter. It was made in two stone halves bedded on top of each other (see drawing A10).

Early artillery ports were quite often, simple round holes in walls and towers (42). Therefore, this is probably the most likely explanation for this insertion. It has suffered from considerable erosion over the years, and it appears that the front face has exfoliated away, making it appear set back into the wall. Access to the port was most likely by the earthen bank which we have already presumed gave access to the lower, Period 2 arrowslits. Its level at this point in the wall could have been no more than a metre below the cill of the port.

6.61(2) *TOWER G*

This tower (see drawings A10 to A13, A22, A27, and A28) has been peculiarly placed. Its position is precisely the same as the probable Tower G3, which was in all likelihood removed in Period 5. It is quite possible that when plans were being prepared for this new artillery tower, the existence of Tower G3 was still clear in living memory, and its former position was thereby selected. Of course this is only a guess as to the reason why Tower G was built where it is. Nevertheless it is not necessarily without credence.

Tower G is the only tower of its type projecting from the curtain wall. It clearly abuts the wall and oversails it. On its north elevation where it joins with the town wall, a garderobe was incorporated into the structure at parapet level. Perhaps the garderobe ca 5m to the north became redundant, with the insertion of a gun port beneath it.

The tower is ca 5m x ca 5.25m in plan. At the top there is a parapet which projects forward on corbels, between which are drainage holes. The elevations are distinguished by the presence of inverted key hole gun ports. We cannot be certain if the rear of the parapet was opened or closed. Unfortunately, it is very likely that consolidation works have obscured the evidence.

Construction of the tower was accomplished by using a scaffolding cage internally,

which must have been tied to external scaffolds. Just north of the tower, a hole was probably broken through the bottom of the Period 5 patch to the wall, allowing a timber to be inserted which could have run parallel to the north wall of the tower, and could be easily tied in with the external scaffolding there. The hole broken through looks like an ordinary putlog, but its north jamb stone is splayed, and its aperture on the rear of the curtain wall is irregularly large. Upon completion of the tower, putlogs were presumably left open, or blocked up as the builders saw fit.

The tower has two floors beneath parapet level. The ground floor room has a vaulted ceiling, while the vaulting which used to roof the first floor and provide a platform for the parapet, has long since gone. In the south east corner of the first floor room there is an angled fire place, whose flue is integral with the construction of the corner of the tower. The chamber is lit by long inverted keyhole gun ports on three sides, at floor level. The east side of the room has a preserved arrowslit from Period 5 in the curtain wall above the door, and one from Period 2 north of the door and at floor level. In fact, the plunging cill of the Period 2 arrowslit projects beneath the level of the first floor. Because the tower abuts the earlier curtain wall, the splay of the arrowslits are situated on, what is in effect, the outside of the tower.

Part of the south jamb of the doorway from the outside remains. It probably incorporates the south jamb of a Period 2 crenel. What can be presumed to be the threshold level of the door is similar to what could have been the very maximum height of the Period 2 earthen bank behind the wall. Therefore, this would have facilitated access to the first floor from the same level from which the lower arrowslits could have been manned, as well as the inserted gun port to the north already described.

The ground floor room has its vault preserved and its character is like that of a basement room. The inverted keyhole gun ports are shorter than those on the first floor, and their cills are almost a metre above floor level. A hacked out oblong cut exists in the west wall. It tapers inwards towards its centre which is in line with a blocked up square of masonry ca 0.3m square, visible in the front elevation and ca 1.8m above the external road level. It is possible that this was an aborted attempt to accommodate another gun in the tower. Maybe even a relatively large piece of ordnance which could be traversed from side to side on a low trunk of some kind. At present, access to the ground floor is through a doorway which has been considerably reconstructed by South Pembrokeshire

District Council in recent years. Nonetheless, this is probably the original entrance. There is no internal access to the first floor above, as may or may not be the case between the first floor and the parapet level.

So far, we have presumed that when this tower was constructed, the earlier earthen bank was still in place along with the wooden parapet walk of Period 4. The wooden walkway, with an addition of stairs, could have easily given access to the parapet level of the tower, while the earthen bank could have given easy access to the first floor room. With the bank in position, we can only presume that access into the ground floor room must have been accomplished by a short tunnel, or excavated trench. If the latter was the case, it would have had to have been boarded over, so that the first floor room could be entered.

6.61(3) *THE ARCADED WALL WALK*

In 1457 it was deemed that Tenby should have a strengthened enceinte, with a continuous wall walk, and a well maintained moat. The sections of arcading presently in existence behind Cobourg House and in the De Valence Pavilion in the north of the Mediaeval town, and behind York House are presumed to be the remains of that strengthening. The following only describes the remains in the garden of York House.

At York house (see drawings A23 and A32), there are clearly two complete arches making up the stone superstructures of part of the wall walk. It appears that when the defences were ordered to be thickened, an efficient use of masonry was preferred by the construction of an arcade. This meant that access could still be had to the lower arrowslits of period 2, while the piers supporting the arches served as buttresses reinforcing the wall, and thereby creating casemates, on top of which the new parapet walk was situated.

The entirety of the arcading abuts the internal face of the curtain wall, and it is ca 1.8m wide (the walkway itself is ca 1.5m wide). The practicalities of its construction would have required a fair deal of the Period 1 earthen bank to have been dug away. The lower reaches of the northern pier at York House can be observed in the garden of 3 Frogmore Villas. There it appears to extend down to ca 27.9m above O.D. That is ca 7m beneath

the very top of the wall, and roughly at the same level as the shrubbery bed presently in front of the wall. There is some evidence for modern underpinning in the presence of a modern brick, but this is not unusual since a number of stretches at the back of the wall have been consolidated over time.

Restoration works by South Pembrokeshire District Council have brought to light the building methods used in the construction of the arcade. It appears that only the outer skin and formed arches were bonded in lime mortar, while the carcass thus created was filled in with rubble in a tan clay matrix (43). Where the arches have been removed, tan clay patches still cling to the curtain wall. They almost never extend above the line of the putlogs, and this clearly points to the stone walkway being built to the level of the earlier, Period 4 parapet walk, which presumably was no longer continuous, and perhaps in need of extensive repairs by 1457.

The new walkway does not match the level of the putlogs precisely. Sometimes it is above, below, or cutting across the earlier putlogs. This is not of great importance in itself, but it means that not all of the putlogs could have been used as drains for the masonry gangway. Nevertheless, drains were necessary, because the rear of the new walkway was provided with a slim parapet of ca 0.35m in width.

We can presume that when construction of the arcade was completed, the areas between the piers were back filled with the spoil previously excavated from the Period 1 bank. This would have consolidated the ground around the piers, giving extra bulk to the defensive ensemble, and continued access to the Period 2 arrowslits. Spoil which was displaced was presumably spread over what are now the back gardens adjacent to the wall. This would have contributed to a lengthening of the general upward slope of the ground toward the wall, which is still observable in varying degrees today.

We cannot be certain if Tower G predated the arcaded wall walk, or vice-versa. We cannot even be sure whether or not the arcade was ever constructed behind the Tower. But one thing is relatively certain, if a scaffolding putlog was struck through the curtain wall to facilitate the construction of Tower G, as already described, then the use of such a scaffold might preclude the presence of the stone arcading. For the struck through putlog is in a position where probably a pier of the wall walk arcade could have been situated. Therefore, for arguments sake at the very least, it shall be proposed that the

Square Tower (G) predates the construction of the stone parapet walk.

6.61(4) *THE SOUTHERN EXTENSION*

It has been presumed by most commentators, and it is similarly presumed here, that the stretch of arcaded wall which stretches south for ca 12.3m from the Belmont Tower (H) to, and including, Turret I (see drawings A17 to A20 and A29 to A31), is more or less contemporary with the building of the masonry wall walk (but the extension of the curtain wall, has incorporated the remains of an earlier wall on the same line, see ref: 16).

A good third of the wall is now incorporated into the Imperial Hotel. The abutment of the wall with the earlier Tower H cannot be seen because of the masking of the join by a cement fillet, but the wall is most assuredly integral with Turret I. The corbelling of the turret itself, is not very dissimilar to the corbelling supporting the parapet of Tower G.

In the turret, there was probably a wooden parapet platform, and the level of the parapet walk on the wall, most likely represents the height of the floor level of a small chamber beneath the platform. Perhaps this was some kind of access chamber.

Of the three arches which make up the extension of the curtain wall to Turret I, and which support the wall walk, only two are visible today. One has been completely masked by the Hotel. They are not dissimilar to the arches preserved in the back garden of York House, but their elongated piers give them a very different sense of proportion. Also, when constructed, these arches did not have to accommodate pre-existing features, ie the arrowslits of Period 2.

Norris illustrated this part of the wall very well (44). His illustration clearly shows the three arches, three crenels and four merlons above the parapet walk, and arrowslits only present in the two central merlons. The full height of the turret at ca 16m above the cliffs is also shown, illustrating the precipitous nature of this end of the fortifications. Norris also shows a stepped wall with coping projecting eastwards form the turret, along the top of the cliffs. A nib of that wall which is bonded with the turret, still exists beneath the modern parapet behind the Imperial Hotel.

6.61(5) *ADDITIONAL ADAPTIONS FOR GUNS*

An upper, Period 4 arrowslit, ca 12m south of the 5 Arches Tower (E) was converted into a gun port (see drawing A01). Whether or not it can be associated with this period, or the repairs to the wall immediately to the south in Period 7 will have to remain unanswered. There is also possibly a crude conversion into a gun port, of the first floor arrowslit on the west side of the South Pool Tower (F) (see drawing A04).

6.62 SECTOR 2

6.62(1) *THE ARCADED WALL WALK*

The most extensive remains of the widening and strengthening of Tenby's defences in 1457 are to be found in this sector, in the garden of Cobourg House, and in the 'Mayors Parlour' in the De Valence Pavilion (NGR SN 13250056).

All of the constructional details noted in the sector 1 description apply to the masonry wall walk remains in this sector. The only difference is that no remnants of a tan clay and lime mortar are to be found on the rear of the curtain wall. This is due to the fact that there is little access to those parts of the wall were the arcaded wall walk no longer exists.

At Cobourg House, the masonry arches, and the parapet walk are covered in very dense vegetation. During the time of the survey of this part of the wall (July) access was extremely limited. Nevertheless, the Period 4 wall profile has been drawn, showing the abutting masonry of the Period 6 wall walk (see drawing A64). The width of the new walk way is virtually identical to that at York House, save that the bulk of masonry beneath it at the apex of the supporting arches is thicker than at York House, ie it is ca 0.5m as opposed to ca 0.3m. The arcading at both Cobourg House and De Valence Pavilion is more squat than at York House, and the distances between the piers is on average ca 3m, which is ca 0.75m less than at York House.

At Cobourg House, seven arches remain, while four are exposed in the De Valence Pavilion (see drawing A65). The former has had a brick stairway built up against it for

access to the parapet from the garden, and two of the vaults have been converted into sheds. There is clear evidence that the whole of the arcading has shifted away from the earlier curtain wall. There is a gap of ca 100mm which has been filled in with jammed in stones. The underside of the arches, the returns of the piers and the rear of the curtain wall have been rendered and / or lime washed over the years. This has obscured details of the blocked in Period 2 crenels, and the interface between the Period 2 and 4 masonry of the curtain wall. One of the Period 2 arrowslits has also been blocked in (see drawings A39 and A64). Nevertheless, the construction of the arches aimed to preserve access to all of the Period 2 arrowslits, but the odd arrowslit has been hidden behind a pier (see drawing A64). In the De Valence Pavilion, all of the arrowslits have been hidden behind a modern plaster finish, but photographs exist showing the disposition of the features of this part of the wall just prior to the construction of the Pavilion, in the NMR in Aberystwyth (45).

As at York House,we can also presume that when construction of the wall walk arcade was completed, besides infilling the construction trenches or pits for the stone piers, the spoil excavated from the Period 1 bank was spread out behind the remains of the rampart, thereby contributing to the levelling up of the ground, already noted at Cobourg House.

6.63 SECTOR 3

6.63(1) *THE RAISED WALL WALK*

As in Sector 1 and 2, the most major event in this Period is the raising of the wall walk in 1457. Laws' description of the masonry raised for the new wall walk has already been quoted in the Period 2 description , and stratigraphically broken down (see drawing A58). So far, we have accepted his narrative on face value, especially in relation to postulating the heightened wall walk arrangements for Period 4. But there is no reason why another interpretation cannot be derived from his observations.

The most obvious would be that the corbel table (either at the top or the bottom of it) does not represent the level of an earlier, presumably Period 2 wall walk, but just a

constructional stage, wherein a decorative string, allowing the wall walk to be slightly widened, was incorporated into the masonry. If this was the case, then the wall walk arrangements described for Period 4 in this sector, would have to be altered to that of an ensemble of earth, timber and stone, as has been proposed for the heightened wall walk in sectors 1 and 2. Subsequently, when the arcaded wall walk was added to the curtain wall in this period, a solid mass of stonework from ground to parapet level, could have been raised in this sector instead. This gave great mass to the wall, especially since this is the curtain adjacent to the town's main North (or Carmarthen) Gate, but it did not allow for a continued use of the Period 2 arrowslits.

If this sequence of building stages is correct, then it would not be unwise to presume that an earthen bank did exist along White Lion Street, prior to the Period 2 stone wall - and was incorporated into the structure of the defensive scheme. But we will never be certain until perhaps, re-development will cause the De Valence Pavilion to be altered or replaced, thereby allowing access to the rear of the curtain wall in this sector.

6.63(2) ***TOWER C***

Presumed alterations to this tower in this period are shown in drawing A67. The first floor, Period 2 arrowslits have been filled in, and their positions internally have apparently been masked. This could be due to the addition of masonry which presumably supports the vaulting which is clearly visible today. However, the attribution of this vaulting, and the blocking of the arrowslits, to this period is not definite. Masonry making up the rear of the tower, and presumably built in this period, appears to underlie the vaulting - suggesting that it has been inserted after the vaulting was constructed. This does not preclude the possibility of the rear wall and vaulting as being contemporary however, since vaulting requires wooden forms to facilitate construction; and it would have been wise for the builder to have left the rear of the tower open until the construction of the vaulting was completed, to be able to remove the forms. Then, the rear wall could have been built slightly under, and up against the south end section of the new vaulted ceiling.

It is presumed that the masonry of the rear wall of Tower C was inserted as part of the construction of the wall walk behind the tower, linking the stone parapet walks along South Parade and White Lion Street. The ground floor plan of Tower C in drawing A66,

shows the relationship of the masonry of the newly constructed wall walks to the tower, which presumably was open backed until this period. A doorway has been provided through the body of the wall walk, and the masonry above it is carried on six stone lintels. The head of the doorway, visible in the 'Mayor's Parlour' (see drawing A65) is formed by a single shallow arched stone. This is quite distinctive, and very similar to the head of the front door into the 'Old House' or 'Tudor Merchant's House' elsewhere in Tenby. The house is of 15th Century date, therefore this style of doorway is compatible with the construction of the stone wall walk in this period (46).

Unfortunately, many possible structural details have been obscured inside Tower C by Period 9 plaster and tiling. Also a block of stonework longitudinally abuts the raised wall walk for more than 3m, from the right jamb of the doorway into the tower, eastwards. We therefore, cannot ascertain how the solid masonry of the White Lion Street wall walk, with its corbel table, relates to the door and the stonework above it, and the arcaded wall walk in sector 2. This also has an obvious bearing on the suggestions already made concerning the rear of the wall in this sector in Periods 2 and 4. We can only guess that the ca 3m of abutting stonework was added up against the thickened wall along White Lion Street, in Period 9, when a summerhouse was constructed on top of Tower C in the 19th Century.

6.63(3) *RENDER ON THE WALL AND TOWER C*

On drawings A33 TO A36 the remains of a tan clay based render has been noted at the bottom of the wall, and on the east side of Tower C, (a similar layer of render is also visible, as a small patch on the northwest side of the 5 Arches Tower (E)). This 'earthy' spread on the surface of the wall is very hard - presumably mixed with lime - and it is extremely similar to the tan, clay - lime mortar observed on the internal elevation of the curtain wall in sector 1, and associated with the construction of the arcaded wall walk (see drawings A23, A49 and A50).

It is very interesting that such a mortar mix is on the external face of the wall. It has already been pointed out that the wall in this sector could have had a render in Period 4. Therefore, this could be patching along the bottom of the wall during this period, when the wall was being renovated with a new wall walk and the moat was being cleared out. If any part of the wall would have needed re-rendering, it would have been the bottom.

Being readily susceptible to damp, it would have been a prime candidate for a 'lick of render' with perhaps excess mortar from the building works, when the defences were being 'modernised' in the middle of the 15th century.

With a similar render noted on the 5 Arches Tower (E), it is possible that render could have been applied to the bottom of the walls in sectors 1 and 2, as well.

6.70 PERIOD 7(1588) *coded P7 on the survey drawings*

This period covers the Armada scare of 1588

The South Pool in sector 1 is quite likely the only part of the town's moat which was filled with water. It was positioned just north of the aptly named South Pool Tower (F). The pool was caused by being the lowest part of the moat, and by having a bottom which exposed a fault in the natural limestone, filled with clay. The persistence of what must have been a stagnant body of water, presumably undermined the fabric of the walls. Laws observed 'two ugly cracks' in the wall by the position of the former pools, and even today, South Pembrokeshire District Council have had to fill in large cracks ca 28m north of Tower F. In fact, these cracks probably delimit the northern extant of the repairs of 1588, commemorated by a plaque ca 12.5m north of the South Pool Tower (F). The repairs included a complete rebuilding of the wall (see drawings A02 and A03). Laws observed that it must have been pulled down to a level of approximately one foot above the then ground level inside the wall, where upon a new stretch of wall was raised, but not as wide as previously (47). The restorers did not rebuild the lower line of Period 2 arrowslits, but they remade the crenellations and arrowslits at the top of the wall. There is a lift line present which the new arrowslits were constructed upon. This is approximately at the same level as the lift of Period 4, stage 4. However, it should be noted that in this overall stretch of wall, the original Period 4 arrowslits south of the 5 Arches Tower (E) have cills which are ca 250mm above the lift line while the new arrowslits are actually on the line of the lift. The new arrowslits are also on average, ca 100mm shorter than the earlier ones.

There are no features in sectors 2 and 3 which can be easily attributed to this period. As

already pointed out, Laws believed that the niche north of 5 Arches Tower (E) in the Period 4 parapet wall, was inserted during repair work undertaken in conjunction with the raising of new masonry at the South Pool. This point can only be verified if and when S.P.D.C. decides to undertake consolidation works on the wall behind Clarice Toy Shop. Only then, the internal fabric of the wall might be exposed, and perhaps this question could be answered.

6.80 PERIOD 8 (1642 and after)

This period represents changes to the wall due to the two sieges during the Civil War. But throughout the entirety of this study there are apparently no features or patches which can be readily attributed to this period. Nevertheless, in sector 2 there is a patch which could have been made in this period (see drawing A39). It has obliterated a Period 2 arrowslit in the front elevation of the wall, and if it was carried out in a later period, it may very well have preserved the outline of the earlier slit due to an increased interest in antiquarianism from the 18th Century onwards. But this attribution is a guess, and such a repair or patch could have been undertaken in almost any period (it is also given a queried Period 9 designation on the survey drawings).

6.90 PERIOD 9 (18th Century to ca 1980) *coded as* P9 *on the survey drawings*

6.91 SECTOR 1

This period covers the modern era. It includes the window, doors and basement access inserted for the Bush Inn Public House, immediately south of the 5 Arches Tower (E). Also included in this period are beam pockets now filled in, which are present in the Period 7 repair, along with a patch and a lean-to building (see drawing A03), which used to abut the curtain wall and South Pool Tower (F).

The outline of the lean-to building can be traced by a spread of render which was crudely scribed to give the effect of ashlar courses. The building is shown on the first and

second edition of the 25 inch O.S. map, and Leach stated that the structure was a fire station (48).

The external face of the wall north of Tower G appears to have escaped attention in this period, save possibly for one small patch which has raised the cill of a lower arrowslit in the approximate centre of the wall. At the rear of the wall, the gardens were probably being lowered at this time, with the wall walk arcade being robbed for building materials. The northern arrowslit behind York House was probably altered sometime in this period, as well as some robbing of stones from the rear of the very lowest lift of the curtain wall.

The entirety of the wall from 5 Arches Tower (E), to a few metres south of Tower G, had its coping remade, or at least repointed. What is visible at the top of the wall today is probably the accumulation of short bouts of work by property owners and the town council, spurred on by interested persons. The walls suffered from creepers, and valerian (49), and the effects of this are visible in the pointing. Over time, the face of the wall has been the object of much differential repointing.

The wall between Towers G and H has been heavily modified, as already noted by Laws (50). The top of the merlon adjacent to Tower G on the south side has probably been consolidated, but in contrast, the tops of the next 3 merlons have definitely been rebuilt. The arrowslit visible above the lean-to building in the garden of Quaintways (National Grid Reference SN 13430025) has had its splay remade in a fashion similar to the mock arrowslits above the Belmont Arch. It is quite possible that the lower arrowslits of Period 2 north and south of the arch have been at least partially remade (see drawings A13, A14 and A22). It is very difficult to delineate the precise line where the wall was cut through to build the Belmont Arch in the last century, but we can presume it to be in the vicinity of the lower arrowslits just noted. The features on top of the arch are pure confection. But lower down, behind the arch, it is probable that some of the early masonry of the wall is still preserved.

The wall south of the Belmont Arch is in a pitiful state. It has been heavily flush pointed, and there is a goodly growth of mould evident. We cannot be certain if the crenellations at the top represent the original pattern. It would not be implausible to presume that most of this short stretch of wall has been rebuilt. A 'first aid' masonry patch has 'laced' together Tower H with the upper half of this wall.

The Belmont Tower (H) has had a modern window inserted on the first floor, and beneath it a ground floor arrowslit has been glazed and a cement trim applied. All of the upper arrowslits have been blocked, with the ground floor arrowslit on the north side patched in such a way that it has lost its bottom half. Soil pipes have also been inserted into the south side of the structure. The tower has suffered greatly by being incorporated into the Imperial Hotel (Belmont House), and it tells markedly in its fabric (see drawings A15 and A16).

The wall between Tower H and Turret I has, like the former tower, suffered by being incorporated into the Imperial Hotel (see drawing A17). The wall has lost its crenellations. A modern window has been inserted. A putlog has been opened up to serve as a drain, and an irregular patch was cut through the wall by the owner of the Hotel, so that building materials could be delivered to the terrace behind the wall in the 1980's. Close to the Belmont Tower (H) the wall has been messily flush pointed in a cement based mortar. The parapet walk has been concreted over, as well as the present level in Turret I which does not relate to any earlier floor level. Steps have also been added so that this level can be reached from the parapet walk.

6.92 SECTOR 2

The modern era has taken its toll in this stretch of the wall. In the late 18th Century the Barbican Gate, or 5 Arches Tower (E) was converted into a powder magazine. This was in the first floor fighting gallery which also had its arrowslits blocked up (51). In the early 19th Century the upper battlements were also blocked up and a monopitch roof, sloping into the central area of the tower was constructed (52). Before the middle of the 19th Century, the masonry infill between the very '5 Arches' was knocked out, and in the 1860's the two arches on the south side adjacent to the curtain wall were made into one (53). In 1897 the upper walls started to bulge, and in 1897 the corporation secured iron bands to the masonry (54). Earlier, in 1873, the corporation wanted to remove the Tower entirely, but that was prevented by a George Chater M.D., to which there is still a commemorative plaque positioned on the Tower (55). A substantial part of the upper parapet was consolidated in 1939 (56), and presumably around that time the present pier supporting the two arches broken into one in the 1860's was inserted (57).

The land parallel to the wall was used as a rope walk for some years after 1784. To accommodate this the arches through Tower D were broken through (58). As already proposed, the shelter built within the carcass of the first floor of Tower D could quite possible have been constructed during this period. But Laws makes no reference to any local knowledge supporting this as a possibility. At least one aperture could have been broken through the curtain wall, which has subsequently been blocked up (see drawing A44), and this may very well have been associated with the rope walk. Nine doorways have been broken through the wall, giving access to rear gardens and shops. Presumably, the bulk of them were cut through after or during the lowering of the high sloping ground behind the curtain wall; a time which must have seen the robbing of the arcaded wall walk for building material. An arrowslit immediately south of Tower C has been re-made, and the next one on has recently had its aperture re-shaped (see drawing A37). Consolidation work has also been undertaken on the arches at Tower D (see drawings A42 and A63). The whole of the coping of the wall has also been consolidated and / or remade.

As already noted at Cobourg House, two arches of the Period 6 wall walk have been converted into garden sheds, and one arrowslit has been blocked - but this may be attributed to an earlier period. A staircase has also been raised upto the wall walk giving access from the garden. In fact, the Town Council maintained the arcaded wall walk as a public footpath up to the 1830's (59).

6.93 SECTOR 3

The modern era in this sector, saw the removal of the Great, or Carmarthen (or North) Gate in 1781. At that time, stairs were also built up to the parapet walk along White Lion Street, from Upper Frog Street (60). Over time, consolidation work and piecemeal rebuilding must have been undertaken on the coping of the curtain wall. This was probably carried through to Tower C where much of the parapet was probably re-made according to Laws, as part of the construction of a summerhouse. It was probably the construction of this structure, which caused the parapet level of the tower to be raised, thereby blocking the Period 4 drains between the corbels. At this time, stairs were probably added to the parapet walk to facilitate access to the summerhouse, and the large mass of masonry noted in the Period 6 description, as obscuring the relationship between the construction of the White Lion Street parapet walk and the masonry over the doorway

into Tower C at ground level, was added (see drawings A65 to A68). This could have been added so that pedestrians could continue to walk along the parapets unhindered by the stairs, which could have blocked their right of way.

Some repair work was carried out on at least one ground floor arrowslit of Tower C (see drawing A36). The deeply plunging cills of the lower arrowslits were levelled up, and the ground floor interior of the tower was plastered and tiled. The tower could have been converted into a kitchen or toilet for there is a drain in the inserted tile floor running around part of the circumference, and there is a man-hole. This could all be associated with the De Valence Gardens, soon after Laws' time, and at the beginning of this century.

In the 1970's, the tower presumably began to serve as an adjacent store room to the Mayor's Parlour in the De Valence Pavilion, which is still its use today. The building of the Pavilion has caused the parapet walk, the stairs to Tower C, and the towers present parapet level to be covered in a bituminous roofing material. This has caused the ancient walkway to merge with the De Valence Pavilion as if they were one structure. This also applies to sector 2 where the Pavilion has incorporated the arcaded wall walk.

7.00 **PERIOD 10** (ca 1980 to the present) *coded as* P10 *on the survey drawings*

This period marks the very recent past where South Pembrokeshire District Council have undertaken their on-going programme of conservation interventions. Repointing and consolidation works have been noted on the survey drawings. Almost all of these have been carried out in sector 1, but the end of the curtain wall exposed at the junction of Upper Frog Street and White Lion Street, has recently been consolidated (see drawing A33).

8.00 DISCUSSION AND SUMMARY

Tenby was most assuredly provided with earthen defences prior to those in stone, which exist today. W Gwyn Thomas has ascribed a date of post 1187 to the earthen bank, when the town was burnt by the Welsh under Maelgwn ap Rhys (61). But such precision in dating is not easy, especially with no data from modern archaeological excavations, and no reliable documentary sources. However, what is probably certain is that the rampart was incorporated into the defensive scheme for Tenby when the first, low curtain wall was constructed in stone. The earth of the bank gave bulk and mass to the thin wall which was literally 'applied' to its face, and the top of the bank must have served as a parapet walk from which to man the arrowslits and crenellations.

The ascription of a precise date to this early wall is also quite hard, even though most commentators on Tenby's history would like us to believe otherwise. Laws, Leach and Gwyn Thomas are more or less convinced that the low curtain wall was initially commenced by William De Valence sometime after the sacking of the town by the Welsh in 1260. But there is no reason not to presume that the walls were commenced at an earlier date, perhaps in the first half of the 13th century, under the auspices of the Marshall earls of Pembroke. This has been suggested by R F Walker (62), and in the light of the complexity of the development of the walls, and in the overall time period wherein the different phases must have been constructed, it appears that this is a logical suggestion. Defensive circuits took a great time to build, especially those which were not funded by the Crown (63). Therefore, as a result of this survey, it is presumed that the development of Tenby's masonry fortifications was continual and long term, and spread over the 13th to the 15th centuries, inclusive.

Some dates have already been given which have a bearing on the development of Tenby's defences, but the following is a relatively fuller list of relevant events:

- One night in 1153, the Castle at Tenby was taken by the Welsh in a raid (64).

- The town was attacked and burned by Maelgwn ap Rhys in 1187 (65).

- The fortifications, which the present ruins on Castle Hill represent, could have been constructed during the tenure of the two William Marshalls, father and son, earls of Pembroke from 1189 to 1231. This was a period in which the lordship of Pembroke was frequently attacked by the Welsh (66).

- According to Matthew Paris, in Parliament (1258 / 59) in London William De Valence, lord of Pembroke, complained to his half brother, Henry III, that the Welsh were toosuccessful in their hostilities against the English. To this the King replied "Expend, expend my well-beloved brother, some of the money of which you have such an abundance, to avenge our injuries." (67).

- In 1259 William de Valence had Tenby Castle looked to (68); presumably spending his own money after receiving short shrift from the King.

- A substantial Welsh force under Llywelyn ap Gruffydd successfully attacked, and sacked Tenby in 1260 (69).

- The town's first charter was granted about 1290 by William De Valence.

- Murage was granted for 7 years in 1328 by Edward III, allowing the town to raise monies for the construction of defences (70).

- It is not inconceivable that Sir Degary Seys could have undertaken emergency work and repairs to the town's defences in 1377, when he was commissioned to survey and repair Tenby Castle (71).

- 200 lbs of saltpetre was supplied in 1406 for defence of Tenby. This is one year after gun powder and saltpetre was ordered to Pembroke Castle (72).

- Letters patent of Jasper Tudor in 1457 ordered that the walls be made 6 feet wide with a continuous wall walk, and a moat maintained.

- A 1484 Charter of Richard III referred to repairs to the town wall (73).

- In 1642 the Mayor of Tenby laid aside monies for the repair of the 5 Arches Tower (E) (74).

- In 1678-9 the gate was again repaired (Tower E) (75).

- To enter the town through the 5 Arches Tower (E), the moat had to be crossed by a wooden causeway which was repaired several times in the 17th Century (76).

The dates and events above accentuate the continual nature of works and repairs to the Town's defences; works and developments which caused a simply fortified enceinte to evolve into a defensive ensemble, worthy of note in the history of mediaeval town fortifications in Britain. But what of the nature of Tenby's landward defences? And how do the characteristics of the constituent parts indicate and / or reflect their periodisation.

From the evidence recorded in this survey it is relatively clear that Tenby's early earth (and presumably timber) defences of Period 1, were not replaced by a wall of stone, but were modified and re-designed into an architectural or structural whole made up of earth, stone and timber (Periods 2 to 5). A distinction between earth and timber defences, and those of stone, should not be strictly entertained when considering Tenby's pre 15th Century walls. The fortifications were a structural hybrid.

In Period 2 a wall of meagre proportions was raised to front the earlier earthen bank, rising on average no more than ca 4.5m above the present street level between Towers C and G and ca 5.8m along White Lion Street. The bottom section was in effect a rampart retaining wall (ca 1-1.5m wide near the base) and the upper part was a parapet shield (just over ca 0.5m in width). The parapet walk was probably provided by the top of the earthen bank. Crenels and long, crudely cruciform arrowslits with plunging cills were provided, and they were uniformly positioned throughout the length of the landward walls. This thin curtain was provided with two open backed towers, at the northern and southern limits of the circuit's longest stretch along South Parade and St Florence Parade, ie Towers C and H. These were bonded with the curtain wall, and towered over the earth and stone ensemble.

Tower C was the only tower of this period which could be viewed internally for this

survey. As to be expected its ground floor had relatively thick walls but its long arrowslits with plunging cills are crude, with no embrasures. This arrangement makes them appear very similar to the long arrowslits in the much larger towers of Cilgerran Castle, built by William Marshall the younger, presumably in 1223, and probably his younger brother Gilbert; both earls of Pembroke between 1215 and 1241 (77). The arrowslits of the Dungeon Tower at Pembroke Castle also appear similar, and they are presumed to be of mid 13th Century date (78). These stylistic similarities point to the Period 2 masonry having a date ascribable to the second quarter or middle of the 13th Century.

The West (or South West) Gate in the position of the later Barbican or 5 Arches Tower (E), and almost equidistant between Towers C and H was in this early period, just the crude arch of relatively small proportions visible today at the west end of St George's Street. Its outline is like that of a chain hanging in catenary, but inverted. This gate could receive no flanking fire in case of attack - due to its distance from Towers C and H - and with its apparent lack of a portcullis must have been a very weak point indeed, in the north to south curtain wall.

So far, it is interesting to note, that what can be regarded as coded words have come to the fore in describing the masonry additions to the Period 1 earthen bank surrounding Tenby, they are; 'meagre', 'crude' and 'weak', and even 'parapet shield' could be included. They exemplify a perceived state of Tenby's Period 2 defences. They also support the notion that the low curtain wall only enhanced the earlier rampart, and that in contrast, the developments in Period 3 were sophisticated, and concerning the gate at St George's Street, revolutionary.

Period 3 saw the enhancement of the north to south curtain by the addition of towers designed differently from those of Period 2, and the construction of a barbican outside of the West (or South West) Gate. We cannot be certain of what the situation was at the North Gate, since it was removed at the end of the 18th Century, but it is reported to have been like the East Gate at Pembroke, which was also a barbican (79).

Of the new Period 3 mural Towers - D and G3 - only D remains. Its constructional details have been outlined in the Period 3 description. Again it must be noted that this was a more practical tower from both a defensive and offensive point of view, in that the

three arches which supported its superstructure allowed the walls to be relatively thin where the arrowslits were positioned. This structural arrangement would have allowed archers to aim more effectively through the apertures. Similar in construction at ground level, but consisting of 5 Arches to support its superstructure, in a horseshoe shaped arc, is the Barbican Gate, or 5 Arches Tower (E) imposed in this period on the West (or South West) Gate at St George's Street. Consequently, this gateway should be considered as having a special place in the history of mediaeval fortifications in Britain.

The barbican gate, with a portcullis situated in the north side, forced entrants to approach St George's Street from the side, and to turn left into the town. This kind of right angled entrance through a tower like structure is reputed to have been influenced by Middle Eastern entrances to fortifications, usually through the flank of a square tower, and they are apparently only present in Britain in particular locations in South Wales (80). Returning crusaders could have brought back with them such an idea, and two such individuals could have been William Marshal (81) the elder and William De Valence (82), both earl and lord of Pembroke respectively. The former is responsible for the Horseshoe Gate into the Inner Ward at Pembroke Castle, while the latter could have been responsible for the Outer Ward at the same castle, including the barbican in front of the Great Gatehouse (83).

William De Valence was essentially a French Lord. Like his son and successor Aymer, he held substantial lands on the continent, and both he and Aymer took part in warfare in France (84). Father and son were also innovators in military architecture as witnessed by their works at Goodrich Castle (85). As inheritors of the Pembroke lordship of the Marshall earls, and as men of great military experience in their own right, they were successors to those instigators of a spate of military innovations which took place in the decades before and after 1200, and included the work of William Marshall. Such innovations included, in England for example, planned batteries of arrowslits extending out from curtain walls, as at Framlingham and Dover Castles, so as to give covering fire to their respective defensive circuits (86). These were offensive defences, and the Barbican or 5 Arches Tower (E) though quite singular, is a fine example of such an offensive structure. The plans of the upper levels of the tower (see drawings A55 and A56) illustrate that the building was not a passive outwork. In fact, the plans give the impression that the tower was a 'killing machine'. With its arrowslits and crenels quite close together, and with the structure raised to provide a two tier offensive battery, it

could have rained arrows onto any attacker - making it a most formidable gate to try to take.

Structurally, the tower's stonework is seemingly different from that in any other part of Tenby's preserved defences. The texture of the surface of the exterior is distinctive, consisting of mainly sub-rectangular stones, not an obvious mix with a great amount of rubble. Could this have been the result of an officer of the lord of Pembroke overseeing the works? This was the case in Southampton where an overseer of the King ensured high standards in the construction of the King's Gatehouse, while the curtain walls were shoddily built under the direction of the borough officials (87). Subsequently, when the 5 Arches Tower (E) was raised, was there an overseer of the lord present again? The masonry and aperture details were almost perfectly mimicked in the new upper level, and this is in noticeable contrast to the raising of Towers C and D in Period 4; when they were given new, slightly projecting parapets on corbel tables. Such stylistic differences can suggest as a possibility that the 5 Arches Tower (E) was raised earlier than, and not necessarily as a response to the raising of the curtain wall in Period 4. The heightening of the tower could have taken place, very soon after its construction, and if this was so, the Barbican would have truly towered over the adjacent curtain wall by ca 4.25m on its north side, and ca 5.3m on its south. With its relatively straight sides, and with the possibility that it could have been rendered, giving it a relatively smooth appearance, the Barbican, or 5 Arches Tower (E) could have also had a symbolic, or visual and psychological impact, comparable to that of a keep or great Gatehouse (dare the point be stretched?) instead of that of a mural tower or simple gate.

If it is likely that the Period 2 curtain wall was constructed by the middle of the 13th Century by the Marshall earls, as suggested by the similarities of the Tower C arrowslits with those at Cilgerran Castle. It is then possible that the 5 Arches Tower (E) was built, and raised by the de Valences sometime between 1260 and 1324 (the year of the death of Aymer de Valence), and Towers D and G3 were added as well. If this chronology reflects the true time scale of events, then most likely, the 1328 murage grant of Edward III could have funded, or begun, the raising of the curtain walls to the heights we know today in Period 4.

In Period 4, Tenby's town walls acquired their finalised form as a hybrid defensive system of earth, stone and timber. The basic disposition of these elements is illustrated

in drawing A69. The carpentry in the illustration is conjectural. The braces are shown with mortice and tenon joins, but it may not have been out of place for them to have been simply lap jointed with the accompanying beam and post. It would be worthwhile to have a specialist on mediaeval carpentry comment on this.

The masonry elements of the heightened curtain wall and towers, including dimensions have been outlined in the respective Period 4 sector descriptions. But the interrelationship of timber and stone is of importance here. The most interesting use of timber at Tenby is in the localised hoards or bretasches (brattices) on the curtain wall. In the 12th Century a bretasche was probably a timber tower on a castle motte, or at the entrance of a defended perimeter. From the 13th Century onwards, the word came to mean timber defences in general - either palisading or hoardings on wall tops. But its use for the latter could suggest that the original (tower like) bretasches had projecting upper stories, much like stereo-typical North American colonial era block houses (88). Such overhanging timberworks probably existed at Tenby, and the positioning of these was planned as part of the defensive scheme for the town in Period 4. They were as integral to the town wall as were the mural towers.

In Sector 2 between Towers C and D, the curtain wall is well over 80m in length. Between the towers, and equidistantly placed between 20m and 22m from centre to centre, are sets of putlogs positioned approximately 0.6m above the main longitudinal line of putlogs which held timbers supporting the wall walk. These sets of putlogs divide the length of wall roughly into equal quarters. Two of the sets consist of three putlogs, while one consists of four. The fourth putlog in this set is awkwardly placed in relation to its accompanying three, therefore it could be 'wild', leaving the other three putlogs disposed in an almost exact way to those making up the other two sets. The positioning of these sets of putlogs is shown on drawings A38 to A40, where they are also shown with a rectangle drawn in a broken line above them. These outline the probable bretasches (or hoardes) that would have been supported by the transverse timbers positioned in the sets of putlogs. These structures were just under 3m in length, save that illustrated in drawing A40 which could have been just over 4m long, because of the possible fourth putlog. The purpose of these bretasches would have been to allow defenders to throw or shoot missiles at an attacker who could have reached the foot of the walls, and presumably to provide flanking fire along the length of the curtain.

In Sector 1, between the probable Tower G3 and Tower F, there are two sets of putlogs higher than the main longitudinal line. It must be remembered that when the wall was raised in Period 4, Tower F did not exist. There was a long clear curtain of over 136m south of the 5 Arches Tower (E), and these sets of putlogs probably held timbers which supported bretasches, outlined in broken lines on drawings A06 and A08. They are positioned ca 35m apart, centre to centre, and the southmost of the two is approximately the same distance north of the position of Tower G3. One could expect then, that a third bretasche might have existed at the fifth merlon and or crenel south of the 5 Arches Tower (E) which is in a position that it is roughly equidistant between the barbican and the bretasche just south of the later Tower F. There are no putlogs for this suggested bretasche, for that part of the curtain wall in which the bretasche would have been positioned was rebuilt in 1588 (Period 7). As in the northern half of sector 2, these overhanging timberworks divided the curtain into four approximately equal quarters. Such straightforward positioning in both sectors points to the construction of the bretasches as being integral to the design of the heightened masonry in Period 4. This whole process may very well have been a result of the murage grant of 1328, as already noted.

As previously pointed out in the Sector 1 description for Period 4, the higher putlogs are relatively large (larger than in Sector 2), and they consist only as pairs. The lengths of the bretasches which they would have supported varies, with the northern one at ca 2m, while the southern one would have been ca 3.5m. Since the merlons are also differently dimensioned from those in sectors 2 and 3, it can only be presumed that a group of different building gangs was responsible for the wall south of the 5 Arches Tower (E). Or that the wall in sector 1 was heightened at a different time than the curtains in the northern half of the enceinte.

The use of such timber structures in conjunction with stone defences was not unusual in the Middle ages. R Higham and P Barker, quote many examples, in their recent book Timber Castles (1992). This is an admirable work, and points out that extensive sources do exist, if sought out, testifying to the use of timberworks on wall tops, as a normal approach to fortification design (89). In the late 13th Century timber wall walks and ' "battlements" ' were positioned ' "about the great tower" ' at Carisbrooke Castle, while almost 100 years later timber look outs ('garetta') at the castle were repaired (90). At Carlisle Castle in 1321, four wooden turrets on the great tower needed repairs, while a

new brattice needed to be built at the east end of the king's chamber for the defence of the castle. Earlier in the century 'wooden houses for the protection of five springalds, four on the four corners of the "high tower" and one "on the wall by the small postern" ' had to be constructed at the castle (91). In the five years before 1408 timber towers, possibly as emergency works, were constructed at Kidwelly Castle (92). In London at the White Tower, a timber gallery was added at the top so that the bottom of the walls could be seen, and the edifice defended more effectively - this was in 1240 (93).

These are just a very few examples of timber works used in conjunction with masonry defences. Higham and Barker point out many more. But their book deals solely with castles, and no similar work appears to have been undertaken exploring the structural evolution of mediaeval town defences from earth and timber, to stone. This mix of structural materials makes Tenby's defences most interesting. There must be parallells to Tenby in other parts of Britain. But town defences are not on the whole well preserved, therefore opportunities to undertake surveys like this one, do not occur very often. Nevertheless, four examples of towns with defensive schemes, comparable in one way or another to Tenby's are very summarily cited below.

King's Lynn was defended by a circuit of earthen ramparts fronted, in part at least, by a stone wall of flint rubble. This was probably applied to the earthen bank during the last quarter of the 13th century and the first quarter of the 14th. Earlier in the 13th century the town relied on ' "wooden bretasches" ' presumably in conjunction with the earthen bank, and at the sites of later gates. Portable timber towers were also utilised. However documentary evidence points to at least one timber bretasche still in existence by the time the shape of the defences was more or less finalised ca 1330 (94). Winchelsea could have been defended by a bank, fronted by a masonry wall. Where the wall has been preserved, it is quite thin. In one location it has been recorded as only 0.66m wide while at another it is 0.91m wide (95). At Norwich a slight bank has been preserved along one stretch of the defensive wall. Presumably, the arrowslits which are visible in this part of the circuit could have been manned from the bank behind the wall, while in another stretch of wall the presence of putlogs suggests the existence of scaffolding, placed so as to give access to further arrowslits (96).

However, the best evidence for a parallel to Tenby can be found at Southampton, where south of the Polymund Tower a section of flimsy curtain wall was excavated, measuring

only 0.76m in thickness. This was built up against a cut in an earlier earthen bank, which had its turf line preserved. On top of the turf line, and up against the back of the thin curtain wall, a further deposition of earth was made, creating what the excavator called a second rampart (97). Murage grants go back to 1260 for Southampton, but the wall in this part of the town is believed to have been constructed between 1360 to 1372 (98).

It has already been noted that Southampton's walls were shoddily built. The mean construction of the defences was exemplified by a report to the Council in ca 1460:

> ' "First please your lordships to understand that the third part and more of the walls of the said town by the land side, where most doubt and fear is, be so feeble that they may not resist any gun shot, and so thin that no man may stand upon them to make any resistance or defence, but as we have yearly made scaffolds of timber for men to stand upon and countermured it with earth, to us an importable cost and charge which timber and countermuring yearly wastes and is consumed by force of weathering under such a form that it can never have end without the gracious aid and comfort of the King our Sovereign Lord." ' (99).

These comments are very illuminating they describe a substantial part of Southampton's defences as consisting of a 'feeble' wall dependent on wooden (scaffolds) walkways giving access to the parapets, and an earthen bank to provide strength and substance to the defensive scheme. This could have easily been a description of Tenby's walls. It is also interesting to note that their comments were made in the middle of the 15th Century, at roughly the same time that it was deemed that Tenby's defences should be strengthened and provided with a continuous wall walk. The parallel is uncanny, but most importantly it, and the other examples briefly cited, show that Tenby was not unusual in the form which its defences took, and that defences of earth, timber and stone did exist. They may have needed continued upkeep and repair over time - with a lifespan which started to end in the 15th Century - but all buildings and structures of all dates have to be managed, and looked after. In the light of all of the above, Tenby's defences as a type, prior to the middle of the 15th Century, should not be underestimated.

The alterations to the defences in Period 5 could have taken place any time after the

raising of the curtain wall, which we are presuming was commenced around 1328. The construction of Tower F could have made the bretasches in sector 1 redundant, especially since the tower was built up against the curtain wall just ca 3.5m north of the probable central bretasche between the 5 Arches Tower (E) and Tower G3. The latter tower was removed and the curtain wall patched, as described in the sector 1 description for this period. However, the reason for this can only be guessed at, and we cannot be certain whether or not the removal of Tower G3 was related to the construction of Tower F.

Period 6 saw the modernisation of Tenby's defences in an age when advances in the technology of warfare were being made, in particular, in artillery. The mid 15th century (1457) documentation directly associated with the thickening of the wall and the providing of a continuous wall walk, and the clearance and re-digging of the town's moat has been dealt with by R F Walker in his admirable article, 'Jasper Tudor and the Town of Tenby' The National Library of Wales Journal in 1965. Though at that time, R F Walker believed, like Laws before him, that the curtain wall was also raised in the 15th century, which is obviously a view not supported by the findings of this survey.

In sector 1, the curtain was altered to accommodate artillery. The simple circular aperture inserted beneath the Period 4 garderobe immediately north of Tower G, is a type B gunport according to J R Kenyon (100). This type of port was used elsewhere in Britain possible as early as ca 1365, and continued in use alongside inverted keyhole gunports (Kenyon's type A) during the 15th century. It has already been noted that in 1405 (during the Owain Glyn Dwr revolt) artillery was present at nearby Pembroke Castle, and that saltpetre was delivered to Tenby in 1406 for the defence of the town.

We cannot be certain whether or not Tower G was constructed as an integral part of the 1457 thickening of Tenby's walls. But the inverted keyhole gunports (type A) indicate that the tower could have been constructed at anytime in the 15th century, or theoretically, even earlier in the last quarter of the 14th century. Drawing A28 shows that the gun ports in Tower G are quite low on the first floor, where they have no cills. The round inverted keyhole apertures are at floor level, and this begs the question whether or not the first floor ports were really designed for guns. There is always the possibility that the first floor was only provided with arrowslits, which were subsequently converted to take guns. Or, that the tower was originally conceived to give the impression of having guns on the first floor, when in reality, guns could have only been adequately accommodated

on the ground floor where cills existed. It must also be remembered that an attempt was made to provide a third gunport in the front elevation at ground floor level but this was aborted. A more final opinion on the gunports in Tower G, can only be put forward after comparatively viewing other early gunports in the British Isles. It is probably fair to say that the study of artillery fortifications for this early period is still in its relative infancy.

The 15th century also saw the extension of Tenby's north-south curtain wall to the very cliff edge, at the junction of St Florence Parade and the Esplanade. This short stretch of wall was constructed over the remains of a previous wall (see drawing A20 and A30) which could point to the pre-Period 6 defences as extending to the South Cliff. The very nature of the earlier wall cannot be ascertained at present, therefore this report is presuming that the town's fortifications probably ended at Tower H, at least during Period 2, if not in the subsequent Periods, 3 to 5. See footnote 16.

Period 7 is well attested by the 1588 plaque north of Tower F. There are no remains which can be easily ascribed to the Civil War (Period 8), even though the town was sieged by parliamentary forces in 1644 and 1648, and the gates were supposed to have come under direct assault (101). With the restoration of the monarchy, the life of Tenby's walls as active defences came to an end. From the 18th century onwards (Period 9) the walls suffered depredations by officials and private citizens. Luckily, the walls still survive (and are being looked after by S.P.D.C. and Cadw), for such extensive mediaeval defences are rare in Britain. This study has shown that the walls of Tenby have a structural history which is not inconsequential, and have much to offer the study of mediaeval towns and their fortifications in the British Isles, and Northern Europe.

S Garfi, Pontrhydygroes

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7 Dr R F Walker has very kindly loaned us a typescript of Mr W Gwyn Thomas' address. However, since it has not been published in a finalised form as yet, we have referenced it only where it has been deemed necessary. In the notes below it will be referred to as; Gwyn Thomas, W, 'Presidential Address'.

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11 All of these features are given a description in Laws, E, 1896 op. cit

12 Walker, R F, 1978 op. cit pp 294 - 295

13 See reference to heights above Ordnance Datum in 3.00, Approach and Methodology

14 Gwyn Thomas, W, 'Presidential Address'

15 Laws, E, 1896, op. cit p 275

16 In Gwyn Thomas, W, 'Presidential Address' it is pointed out that the remains of an early wall exist south of the Belmont Tower (H), indicating that the early mediaeval walls did not terminate where Laws stated that they did. The remains of this wall have been recorded this season but it is impossible to ascribe a date to them. Also, the remains are such that their true nature cannot be ascertained.

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49 This can easily be seen in records and photographs held by both the National Monuments Record for Wales and Tenby Museum. There is also correspondence about vegetation on the walls in the files at South Pembrokeshire District Council.

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53 Laws, E, 1896, op. cit p 191

54 Leach, A.L., 1898, op. cit p 21. The iron bands are illustrated in photographs in the NMR, op. cit

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98 ibid, p 147

99 ibid, with spelling modernised by J Wacher and quoted from Anderson, R.C. (ed), Letters of the Fifteenth and Sixteenth Centuries form the Archives of Southampton, 1921, p 21.

100 See the typology published in Kenyon, J.R., 'Wark Castle and its Artillery Defences in the Reign of Henry VIII', Post Mediaeval Archaeology, Vol. II, 1977, p 50 - 59

101 Laws, E., op. cit p 180 - 182 and 190

TENBY TOWN WALLS DRAWING REGISTER

A = Interpreted Drawing
B = Base Drawing

Sector 1 Phase (Season) 1

Drawing Number	Description	Scale
253*01	Elevation**	1:50
253 02	Elevation	1:50
253 03	Elevation	1:50
253 04	Tower F North & West Elevations	1:50
253 05	Tower F South Elevation	1:50
253 06	Elevation	1:50
253 07	Elevation	1:50
253 08	Elevation	1:50
253 09	Elevation	1:50
253 10	Elevation	1:50
253 11	Tower G West Elevation	1:50
253 12	Tower G North & South Elevation	1:50
253 13	Elevation (Belmont Arch)	1:50
253 14	Elevation (Belmont Arch)	1:50
253 15	Tower H West Elevation	1:50
253 16	Tower H North & South Elevation	1:50
253 17	Elevation	1:50
253 18	Tower I North & West Elevation	1:50
253 19	Tower I South Elevation	1:50
253 20	Tower I East Elevation of South Extension	1:50
253 21	Elevation Rear of Belmont Arch	1:50
253 22	Tower G East Elevation	1:50
253 23	Elevations (York House & 3 Frogmore Villas)	1:50
253 24	Elevations (Winkle Cottage & Cilrhiw)	1:50
253 25	Elevations (Nos 1 & 2 Lydstep Buildings)	1:50
253 26	Tower F (P5), Ground Floor Plan	1:50
253 27	Tower G, Ground & First Floor Plan	1:50
253 28	Tower G, Section A-A & Section B-B	1:50
253 29	Tower I, Plan A & Plan B	1:50
253 30	Plan of South Extension	1:50
253 31	Tower I, Section A-A	1:50
253 32	Section A-A, York House	1:50

* Job Number
** Drawings described as 'Elevation', refer to the front of the curtain wall.

Sector 2 Phase (Season) 2

Drawing Number	Description	Scale
253 37	Elevation	1:50
253 38	Elevation	1:50
253 39	Elevation	1:50
253 40	Elevation	1:50
253 41	Elevation	1:50
253 42	Tower D, Elevations North & South	1:50
253 43	Elevation	1:50
253 44	Elevation	1:50
253 45	Elevation	1:50
253 46	Elevation	1:50
253 47	Elevation	1:50
253 48	Elevation	1:50
253 49	5 Arches Tower (E), North Elevation	1:50
253 50	5 Arches Tower (E), West Elevation	1:50
253 51	5 Arches Tower (E), South Elevation	1:50
253 52	5 Arches Tower (E), Section B-B	1:50
253 53	5 Arches Tower (E), Rear Elevations of Entrance to St George's Street	1:50
253 54	5 Arches Tower (E), Ground Plan	1:50
253 55	5 Arches Tower (E), First Floor Plan Gallery Level (P3/1)	1:50
253 56	5 Arches Tower (E), Second Floor Plan Parapet Level (P3/2)	1:50
253 57	5 Arches Tower (E), Section A-A	1:50
253 58	Sections Through Curtain Wall	1:50
253 59	Elevation (Clarice Toy Shop & Pennington House)	1:50
253 60	Tower D, East or Rear Elevation	1:50
253 61	Tower D, Plans A-A & B-B	1:50
253 62	Tower D, Plan CC	1:50
253 63	Tower D, Section A-A & B-B	1:50
253 64	Section Cobourg House	1:50 & 1:100
253 65	The Mayors Parlour - De Valence Pavillion	1:50
253 66	Tower C Plans	1:50
253 67	Tower C Sections A-A	1:50
253 68	Rear Elevations Behind De Valence Pavillion	1:50
253 69	Development of Tenby Town Walls (Sectors 1 & 2)	1:50

Sector 3 Phase (Season) 2

Drawing Number	Description	Scale
253 33	Elevation (White Lion Street)	1:50
253 34	Elevation (White Lion Street)	1:50
253 35	Elevation (White Lion Street)	1:50
253 36	Tower C, North West & South Elevation	1:50
253 58	Sections Through Curtain Wall	1:50
253 68	Rear Elevations Behind De Valence Pavillion	1:50

Date	Film	Shot No.	Exposure No.	Location	Remarks
14.1.93	A	001	1 - 3	W. face of Imperial Tower (I)	
		002	4 - 6	N. face of Imperial Tower (I)	
		003	8 - 11	Wall to Belmont Tower (H)	
		004	12 - 14	S.face of Belmont Tower (H)	
		005	15	W. face of Belmont Tower (H)	To top of window only.
	B	006	1 - 3	N. face of Belmont Tower (H)	
		007	4 - 6	Belmont Tower to Belmont archway right side*	* Base needs detailing.
		008	7 - 9	To Centre of Belmont Arch	
		009	10 - 12	Belmont Arch & left side (N)	
		010	13 -15	Left side of Belmont Arch plus approx. 4m of wall	
	C	011	1 - 3	Wall to the south of Square Tower (G).	
		012	4 - 6	Corner of Square Tower (G) and wall	
		013	7 - 9	S.face of Square Tower (G)	
		014	10 - 12	N.face of Square Tower (G)	
		015	13 - 15	Wall going north from corner of Square Tower (G)	
	D	016	1 - 3	Distance of right hand pole from Square Tower (G) - 5.07m	
		017	4 - 6	Distance of right hand pole from Square Tower (G) - 9.93m	
		018	7 - 9	Distance of right hand pole from Square Tower (G) - 14.88m	

Date	Film	Shot No.	Exposure No.	Location	Remarks
	D	019	10 - 12	Distance of right hand pole from Square Tower (G) - 19.32m	
		020	13 - 15	Distance of right hand pole from Square Tower (G) - 24.40m	
14.1.93	E	021	1 - 3	Distance of right hand pole from Square Tower (G) - 40.43m	Also printed on (tilted) 2 x A4)
		022	4 -6	Distance of right hand pole from Square Tower (G) - 57.11m	Total distance between Towers 81.18m
		023	7 - 9	Distance of right hand pole from Square Tower (G) - 62.95m	
		024	10 - 12	Distance of right hand pole from Square Tower (G) - 69.05m	
		025	13 - 15	Distance of right hand pole from Square Tower (G) - 75.69m	
20.01.93	F(120)	026	1 - 3	No. 1 Lydstep Buildings	See also 035
	(HP5)	{027	4 - 6	No. 2 Lydstep Buildings	
		{028	7 - 9	Cilrhiw & Winkle Cottage	
	Std.lens 80mm	{029 {	10 - 12	York House (right hand arch only).	See also 038 and 039
		{030	13 - 15	2 Frogmore Terrace (Square Tower (G))	See also 040-052 and 058
				All 35mm shots are at varying scales	
	G(35mm)	{031	0A 1A	Bush Inn - Stairway to 1st floor	
		{032 {	2A	Bush Inn - Back of bar, ground floor	
	28mm lens	{033 {	3A & 4A	Frogmore House, rear garden	

Date	Film	Shot No.	Exposure No.	Location	Remarks	
	85mm lens	034	5A 7A & 8A	Tower Cottage roof Tower Cottage interiors		
		035	9A & 10A	No 1 Lydstep Buildings	See 026	Not printed
	28mm	036	11A & 12A	Area adjacent (S) to No 1		
	50mm	037	13A & 14A	Rear of garage		
		038	15A, 16A & 17A	York House (arches)		
	28mm	039	19A & 20A	S from York house		
		040	21A	Interior of Square Tower (G), W.face (vertical format)		
		041	22A	Int. of Square Tower (G) E.face Horizontal format		Not printed
	28mm	042	23A	Int. of Square Tower (G) S. face Horizontal format		Not printed
		043	24A	Int. of Square Tower (G) S. face Vertical format		
		044	25A	Int. of Square Tower (G) S. face Vertical format		
				Int. of Square Tower (G) W. face Horizontal format		
		045	26A	Int. of Square Tower (G) N. facing Horizontal format		Not printed
		046	27A	Int. of Square Tower (G) N. face Vertical format		
	28mm	047	28A	S of Square Tower (G)	From York Hse	Not printed
		048	29A/30A	N of Square Tower (G)	From York Hse	Not printed
		049	31A	Square Tower (G) overview		Not printed
	28mm	050	32A	S of Square Tower (G)	From York Hse	Not printed
	wide	051	33A	N of Square Tower (G)	From York Hse	Not printed
	angle	052	34A	Square Tower (G) & wall to north	From York Hse	Not printed

Date	Film	Shot No.	Exposure No.	Location	Remarks
	A (35mm) wide angle (28mm)	1a	3 - 5	Mayors Parlour Arches from N to S	
		2a	6 - 8	Mayors Parlour Arches from N to S	
		3a	9 -11	Mayors Parlour Arches from N to S	
		4a	12 - 14	Mayors Parlour Arches from N to S	
		5a	15 - 17	Mayors Parlour Arches from N to S	
		6a	18 - 20	Mayors Parlour Arches from N to S	
		7a	21 - 23	Wall adj. White Lion Street	
		8a	24	Rear of T P Hughes (Base)	
	A 645 (120) Std lens 80mm	9a	1/2	Top of De Valence	
		10a	3	Top of De Valence	
		11a	4	Top of De Valence	
		12a	5	Top of De Valence	
		13a	6	Top of De Valence	
		14a	7	Top of De Valence	
		15a	8/9	Top of De Valence	
		16a	10	Top of De Valence	
		17a	11	Top of De Valence	
		18a	12	Top of De Valence	
		19a	13/14	Top of De Valence	
		20a	15	Top of De Valence	
		21a	16	Top of De Valence	
		22a	17	Top of De Valence	
		23a	18/19	Top of De Valence	
	B 120 Std lens	24a	1	Top of De Valence	
		25a	2	Top of De Valence	
		26a	3/4	Top of De Valence	
		27a	5	Top of De Valence	
		28a	6 - 8/9	Rear of Cobourg (overgrown Arches) N to S	
		29a	10	Arch & Stairway	
		30a	11 - 13		
		31a	14/15,16,17	Rear of Belts Tower (D) Hilling & Allen Electric	
		32a	18	Rear of Pennington House	
	B 35mm	33a	18 & 19	From De Valence end looking S	
		34a	20 - 22	Adjoining wall of Belts Tower (D) Hilling & Allen	
		35a	23 - 25	Belts Tower (D)	
		36a	26	Wall joining S of Belts Tower (D)	
		37a	27	Rear of Normandie Hotel North from Belts Tower (D)	
		38a	28	Rear of T P Hughes looking S	
		39a	29	Walkway at rear of Clarice Paint & Paper shop	
		40a	30	Wall at rear of Clarice Paint & Paper shop	
		41a	31	Rear of Rugby Club	
		42a	32	Rear of Gift Shop (looking S)	
		43a	33	Rear of Gift Shop (looking N)	
		44a	34,35,36	Rear of Clarice Toy Shop	

Date	Film	Shot No.	Exposure No.	Location	Remarks
	H(120)	{053	1 - 3	3 Frogmore Villas	See also 059
		{054	1 - 6	Quaintways	See also 060/1
	std. lens 80mm	{055	7 - 10	Belmont Arch (E.side)	
	"	{056	11	Base of Square Tower (G) West side	See also 066/069 (from window opp.)
		{057	12 & 13	Imperial Tower from Imperial Hotel	See also 070
	35mm	058	0 & 1	Ground floor, Square Tower (G) (locked)	
		{059	2	3 Frogmore villas	
		{060	3	3 Frogmore villas	Not printed
		{061	4 & 5	Quaintways, looking N	Not printed
	All on	{062	6	Quaintways, looking S	Not printed
	wide	{063	7	S.Tower face	overlooking beach
	angle	{064	8	Base of Imperial Tower (I)	overlooking beach
	28mm	{065	9,10 & 11	Belmont Tower, top 1/2 Base.	See also 005
	"	{066	12	Square Tower (G), W. face	Top section
		{067	13	Overview, looking N.	from Sq. Tower (G) Not printed
		{068	14	Overview, looking S.	from Sq. Tower (G) Not printed
		{069	15,16	Mid section of Square Tower	
		{070	17,18 & 19	Imperial Tower (I) from Imp. Hotel	
29.1.93	J(120)	071	1 - 3	South Pool Tower (F), S.face	
		072	4 - 6	South Pool Tower (F), W.face	
		073	7 - 9	South Pool Tower (F), N.face	
		074	10 - 12	0-7m wall (N. from South Pool Tower (F))	
	"	075	12 - 15 (-1 last exp)	7m - 12m wall	

Date	Film	Shot No.	Exposure No.	Location	Remarks
	K(120)	076	1 - 3	12 - 20m wall	
		077	4 - 6	20 - 27m wall	
		078	7 - 9	27 - 33m wall	
		079	10 - 12 (-1)	33 - 39m wall	Bush Inn, wall entrance
		080	13 - 15	39m - 44m wall	
	L(120)	081	1 - 3	44 - 49m	Also from 5 Arches Tower
		082	4 - 6	S.face of 5 Arches Tower (E)	
		083	7 - 9	S.W. face	
		084	10 - 12	N.W. face	
		085	13 - 15	N.W. face	
	M(120)	086	0 - 3	N. face, 5 Arches Tower	
		087	4 - 6	Portcullis arch of 5 Arches Tower	
		088	7 - 10	Main gate of 5 Arches Tower from townside	
		089	11 - 13	Cross section at wall from E side	
	N(35mm FP4)	090	25 -26	S.Arch from inside 5 Arches Tower	
		091	27 - 28	W.Arches from inside 5 Arches Tower	
		092	29 - 30	N.W. arches from inside 5 Arches Tower	
	28mm wide lens	093	31	Portcullis arch from inside 5 Arches Tower	
		094	32	Portcullis arch & south side from inside 5 Arches Tower	
		095	33 - 34	E.Arch form inside 5 Arches Tower - cross section	
		096	35 - 36	E.Arch form inside 5 Arches Tower	
	O(35mm HP5)	097	0	Top of E.arch looking south (5 Arches Tower)	
		098	1	Top section of S.Arches	
		099	2	Top section of W. Arches	
		100	3	Top section of N.W. Arches	
		101	4	Looking N. along wall above 5 Arches Tower	
		102	5	Looking S. along wall above 5 Arches Tower	
		103	6	Entrance - upper gallery - enclosed area, above arches	
		104	7 - 9	Gallery	
		105	10	Looking south	
		106	11 - 12	Curved walls above 5 Arches Tower	

Date	Film	Shot No.	Exposure No.	Location	Remarks
23.3.93	1 (120)	1		Wall to North of Tower E	
		2		Wall to North of Tower E	
		3		Wall to North of Tower E	
		4		Wall to North of Tower E	
		5		Wall to North of Tower E	
23.3.93	2 (120)	6		Wall to North of Tower E	
		7		Wall to North of Tower E	
		8		Wall to North of Tower E	
		9		Wall to North of Tower E	
		10		Wall to North of Tower E	
23.3.93	3 (120)	11		Wall to North of Tower E	
		12		Wall to North of Tower E	
		13		Wall to North of Tower E	
		14		Wall to North of Tower E	
		15		Wall to North of Tower E	
23.3.93	4 (120)	16		Wall to North of Tower E	
		17		Wall to North of Tower E	
		18		Wall to North of Tower E	
		19		Wall to North of Tower E	
		20		Wall to North of Tower E	
23.3.93	5 (120)	21		Wall to North of Tower E	
		22		Wall to North of Tower E	
		23		Wall to North of Tower E	
		24		Wall to North of Tower E	
		25		South Elevation Tower D	
23.3.93	6 (120)	26		North Elevation Tower D	
		27		Wall to North of Tower D	
		28		Wall to North of Tower D	
		29		Wall to North of Tower D	
		30		Wall to North of Tower D	
23.3.93	7 (120)	31		Wall to North of Tower D	
		32		Wall to North of Tower D	
		33		Wall to North of Tower D	
		34		Wall to North of Tower D	
		35		Wall to North of Tower D	

Date	Film	Shot No.	Exposure No.	Location	Remarks
23.3.93	8 (120)	36		Wall to North of Tower D	
		37		Wall to North of Tower D	
		38		Wall to North of Tower D	
		39		Wall to North of Tower D	
		40		Wall to North of Tower D	
23.3.93	9 (120)	41		Wall to North of Tower D	
		42		Wall to North of Tower D	
		43		Wall to North of Tower D	
		44		Wall to North of Tower D	
		45		Wall to North of Tower D	
23.3.93	10 (120)	46		West Elevation Tower C	
		47		South Elevation Tower C	
		48		N. West Elevation Tower C	
		49		North Elevation Tower C	
		50		Wall to East of Tower C	
23.3.93	11 (120)	51		Wall to East of Tower C	
		52		Wall to East of Tower C	
		53		Wall to East of Tower C	
		54		Wall to East of Tower C	
		55		Wall to East of Tower C	
23.3.93	12 (120)	56		Wall to East of Tower C	
		57		Wall to East of Tower C	
		58		Wall to East of Tower C	
		59		Wall to East of Tower C	
		60		Wall to East of Tower C	
23.3.93	13 35mm	61		South Elevation Tower D	
		62		West Elevation Tower D (lower half)	
		63		West Elevation Tower D (upper half)	
		64		North Elevation Tower D	
		65		Internal view looking West Tower D	
		66		Internal view looking North Tower D	
		67		Internal view looking South Tower D	

TENBY TOWN WALLS: Stage III

An Archaeological Recording Project for South Pembrokeshire District Council and Cadw

By Peter Holden Chartered Architects

1.0 INTRODUCTION

This brief report is a continuation of *Tenby Town Walls: archaeological recording project*, submitted by Peter Holden Chartered Architects to the clients, South Pembrokeshire District Council and Cadw, in November 1993.

South Pembrokeshire District Council and Cadw, Welsh Historic Monuments, are involved in a long running programme of repair and consolidation of the Town Walls of Tenby, Pembrokeshire. Although incomplete, they are the best surviving enceinte of medieval town walls in Wales after Conwy. The present programme of works extends back atleast 10 to 20 years, but throughout this period the recording of conservation interventions has been very inadequate and piecemeal.

Because of this, South Pembrokeshire District Council and Cadw proposed in 1992 that a thorough archaeological survey based on rectified photography be carried out on the surviving fabric of Tenby's landward walls. The contract for this work was let to Peter Holden Chartered Architects in two phases. The first was carried out between 4 January to 5 March 1993, and the second was undertaken between 10 May to November later in the same year. The present survey, i.e. Phase 3, was carried out between 6 March 1995 and the date of submission of this report.

The survey has been co-ordinated by Peter Holden RIBA. Archaeological analysis (including the preparation of this report) has been provided by Salvatore Garfi MIFA of Pontrhydygroes, Dyfed, and the rectified photography has been carried out by Phil Holden of Swansea. The master copy of this report with drawings, photographs and negatives, will be deposited in the National Monuments Record for Wales - a public archive held in Aberystwyth at the offices of the Royal Commission on the Ancient and Historical Monuments of Wales. Paper copies of the report will also be deposited with the Clients.

The approach and methodology for this archaeological survey, in the field and in the office, is the same as that described in section 3.00 of *Tenby Town Walls: archaeological recording project* (1993), hereafter referred to as *Tenby Town Walls*. In this instance however, the base drawings were prepared by Darren Butland of Peter Holden Chartered Architects.
The drawings are numbered 70 to 73. Those prefixed with the letter A are the archaeological interpretation drawings, while those prefixed B are base drawings. References to drawings in

this report, will be to those prefixed A. Levels above O.D. noted on the elevation drawings represent the datum lines recorded on the photographs. They however, like levels noted in the text, are approximations. All references to Ordnance Datum have been included so that *comparisons of relative heights* can be made.

This report deals with the rear elevations of two sections of Tenby's landward wall along South Parade. They are situated at the rear of the gardens of no.13 (Clarice Paint Shop), and Coburg House, Upper Frog Street. We thank the owners of these properties for allowing us easy access so that the survey could be undertaken.

2.0 ARCHAEOLOGICAL DESCRIPTION OF THE WALLS

2.1 *Dating and Phasing the Walls*-

A comprehensive narrative charting the historical phases of the walls, and their construction, is given in *Tenby Town Walls*. A total of ten periods or phases have been discerned. These are primarily based on the stratigraphic relationships of additions to the walls, and relative changes in building methods and fabric. It is extremely hard to date the different components making up Tenby's defences without clear documentation or artefactual evidence, therefore the following lists of dates assigned to periods/phases should be viewed as very approximate indeed:

Period 1	Prior to the middle of the 13th century
Period 2	Around the middle of the 13th century
Period 3	Second half of the 13th century, into the first quarter of the 14th century
Period 4	From the second quarter of the 14th century to the 15th century
Period 5	Middle of the 14th century to the 15th century
Period 6	The 15th century
Period 7	1588
Period 8	1642 and after
Period 9	18th century to c.1980
Period 10	c.1980 to the present

NB. 'Phase' is probably a more appropriate term than 'Period', but the latter is used in this report, to conform with the nomenclature of Tenby Town Walls.

2.2 *Location of the Wall Sections*-

The two rear sections of town wall in this survey are located in Sector 2 as noted in *Tenby Town Walls*. Sector 2 (see accompanying town plan) is a north to south stretch of wall along South Parade, extending from the Northwest Tower (tower C) at the junction of White Lion Street and South Parade (NGR SN 1324 0056) to the Five Arches Tower (tower E) at the junction of South Parade, St George's Street and South Pool (NGR SN 1335 0038).

The northernmost section of Wall is behind Cobourg House at NGR SN 1328 0052, while the southern section is behind no. 13 Upper Frog Street (Clarice Paint Shop) at NGR SN 1332 0045.

2.3 *Cobourg House*-

A c.27.5 m length of the rear of Tenby's medieval town walls is accessible in the garden behind Cobourg House, Upper Frog Street (NGR 1328 0052). Masonry raised in periods 2, 4, 6 and 9 are clearly evident, and they can be clearly seen in drawings 70 to 71 and 73, accompanying this report. As already pointed out, these periods are comprehensively explained in *Tenby Town Walls*. and their approximate dates have been noted above, but suffice it to say;

Part of the earliest masonry wall defending Tenby (constructed in Period 2; P2) is clearly visible behind Cobourg House. It is noted as P2/1B, overlain by P2/2 on drawings 70 and 71. These two building stages are not clearly defined however, because the rear of the wall has been lime washed and/or rendered over the years. P2/1B represents a building stage (or lift) more or less up to the bottom of the visible arrowslits, while P2/2 represents the masonry between the arrowslits incorporating crenels. P2/1A which is visible on the front elevation of the wall, is not visible here because it is beneath the level of the garden at Cobourg House. Nevertheless. all of these building stages can be clearly seen on the front elevation of the wall, see drawings 37 to 41 in *Tenby Town Walls*.

The Period 2 wall was probably constructed around the middle of the 13th century, but this is not certain. At its height, averaging at c.32.60 m O.D., the wall is c.0.55 m thick, while at its lowest accessible area, at c.30.80 m O.D., the wall is c.0.75 m thick. At c. 31.20 m O.D. there is a ledge in the rear of the wall c.100 mm in width. This ledge can be followed throughout the entire length of Tenby's Town Walls wherever the rear elevation is accessible, but here it does not relate to the constructional change between stages P2/1B and P2/2 as is the case further south in Sector 2 and Sector 1 (for an explanation of this see *Tenby Town Walls*, Sections 6.22 to 6.22(1b)). The P2 crenels and arrowslits are relatively equidistantly placed with the latter roughly centrally positioned in merlons approximately 5.5 m long. The arrowslits average c.0.50 m in width by c.0.70 m in height internally, whereupon they narrow to c.100 mm in width in the front elevation, and extend downwards, with plunging cills, to a maximum height of c.1.00 m. The crenels average c. 0.55 m in width by 0.55 m in height. Some putlogs are visible in the masonry - these would have been for scaffolding during the construction of the wall - and it is highly likely that the crenels and arrowslits would have been manned from the top of an earthen bank. This is explained in greater detail in *Tenby Town Walls*, Sections 6.10 to 6.12 and 6.21 to 6.22(1b).

The next period in the history of Tenby's medieval walls which is visible behind Cobourg House is Period 4 (approximately from the second quarter of the 14th century to the 15th century). This represents the heightening of the medieval defences in this section to c.35.60 m O.D., with the provision of a timber wall walk. The wall was raised in four building stages during this period (P4). They are most clear in Sector 1 (see *Tenby Town Walls*, Section 6.41) but not easily visible behind Cobourg House. Nevertheless, the main building stages can still be pointed out by distinctive features which punctuated the very process of raising the wall. The first stage was the filling in of the P2 crenels, stage P4/1. This is the clearest of all of the P4 stages in this section of wall. This was followed by P4/2 which represents the raising of the wall to a height of c.33.60 m O.D. where there is a clear line of putlogs (c.150 mm square) which in all likelihood supported a timber wall walk. The next stage, P4/3 is represented by a short lift up to the cills of the upper arrowslits in the elevation, while the last stage, P4/4 constituted the construction of the merlons and crenels (where the top of the wall is only c.0.45 m wide). On drawings 70 and 71, stages P4/2 to P4/4 are not individually delineated, instead they are simply noted as P4/2-4. This is in keeping with drawings 37 to 40 of *Tenby Town Walls*.

In drawing 71 there are three putlogs (c.200 mm square) set above the rest which represent the position of a probable hoard or *brattice*. This would have been made of timber and would have oversailed the wall. Such a structure would have provided an effective means of defending the base of the wall in case of attack, providing enhanced flanking fire along the length of the wall. All of these stages and features are described in *Tenby Town Walls*, Sections 6.42(1) to 6.42(1c).

No further additions or alterations occurred along this stretch of wall until 1457, in Period 6 (P6). See *Tenby Town Walls*, Sections 6.61(3) and especially 6.62(1).

In 1457 the defences of Tenby were improved with the addition of a stone wall walk by Jasper Tudor, earl of Pembroke. This walk was provided throughout the entire north-south length of Tenby's western wall, by a series of stone piers and arches. The new work abutted the P2 and P4 curtain wall, and by being constructed as a series of arches it still provided access to the arrowslits in the lower P2 wall. Drawings 70,71 and 73 illustrate this masonry addition most clearly. On average, the arches at Coburg House are 3.07m wide by 1.75m deep, but the piers from which they spring are slightly battered, thereby increasing their depth at the present ground level to c. 2m. The fronts of the piers are on average 1.27m in width.

The stone walkway itself is c.1.75 m wide and preserved to a parapet height of c.33.6 m O.D., and over the years it has been moving away from the earlier curtain wall which it abuts (see drawing 73). The gap between the earlier and later masonry has been crudely filled with wedged in stones of varying sizes. The original paving of the walk has been lost, and it is now covered by concrete and earth. In all, there are seven arches preserved behind Cobourg House and two have been converted into sheds in modern times.

The wall suffered no further changes until the modern period, Period 9 (P9). During this time, the masonry had been differentially re-pointed and the coping at the top of the parapet was re-made. The top of the P6 arcaded wall walk was given a covering of concrete which has been deteriorating over time, due to plant colonisation. The conversion of two arches supporting the wall walk into sheds, caused a neat concrete slab to be lain on top of the walk to presumably, make the sheds watertight. The P2 arrowslit, second from the north on

drawing 71 was probably blocked up during the modern period, but in Section 6.80 in *Tenby Town Walls*, the possibility that this alteration could have been associated with damage sustained by the defences during the English Civil War is entertained. Period 9 also saw the addition of the stone and brick stairs which abut the P6 wall walk, and give access to the parapet from the garden behind Cobourg House.

2.4 *no.13 Upper Frog Street (Clarice Paint Shop)-*

Drawing 72 shows the rear elevation of the short length (c.5.00 m) of town wall behind no.13 Upper Frog Street (NGR SN 1332 0045). In this section of Tenby's medieval wall, the Period 2 curtain is shown quite clearly. It was constructed in two major stages. The lowest is made up of two lifts, P2/1A and P2/1B. These can be easily delineated on the front elevation (see drawing 45 of *Tenby Town Walls)*, but they are not clearly defined at the rear. Because of this, they have been labelled jointly as P2/1A-B on the accompanying drawing. On top of these is the second stage of construction, P2/2. As at Cobourg House, this was probably the parapet of Tenby's wall during the middle of the 13th century, and most likely it was manned from an earthen bank which was probably levelled up to the interface between P2/1A-B and P2/2. At this interface there is a ledge of c.130 mm (see *Tenby Town Walls*, Sections 6.10 to 6.12 and 6.21 to 6.22(1b)).

Tenby Town Walls, Sections 6.42(1d) to 6.42(1e) explains the raising of the wall in this part of the western curtain in Period 4 (from the second quarter of the 14th century to the 15th century). As elsewhere, the Period 2 crenels were filled in as a first stage (P4/1). This was followed by three further stages punctuated by lift delineations or specific features (P4/2 and P4/3, noted jointly as P4/2-3 on drawing 72, and P4/4). Though curiously, the line of putlogs associated with the inclusion of a probable timber wall walk in this period, is situated directly on the top of the masonry making up P2/2. This is contrary to what is the case in the northern half of the curtain wall along South Parade in Sector 2 (wherein the wall at Cobourg House is situated), and along the wall in Sector 1 (for clarification of this, see Section 6.42(1d) of *Tenby Town Walls*).

The Period 6 addition of Jasper Tudor's masonry wall walk has been removed, presumably some time during Period 9. But also during the modern period (P9), the P2 arrowslit in this section of wall was partially blocked up and covered with a lime render. The outline of the render is still roughly visible, and it is possible that it crudely points to the outline of one of the arches making up the arcaded wall walk of 1457. This is not certain, but it is obvious from other rear elevations of curtain wall (eg. Cobourg House) that the construction of the stone wall walk preserved the access to a fair number of the P2 arrowslits which could, thereby, still be manned. Period 9 also saw the re-making of the coping on the wall, and the laying of concrete up against the base of the rear of the wall. There is a modern brick partition with a wooden gate at the north property line of no.13 leading into Nelson's Walk, and the doorway into the walk from the street outside, shown in *Tenby Town Walls*, drawing 44.

3.0 SUMMARY

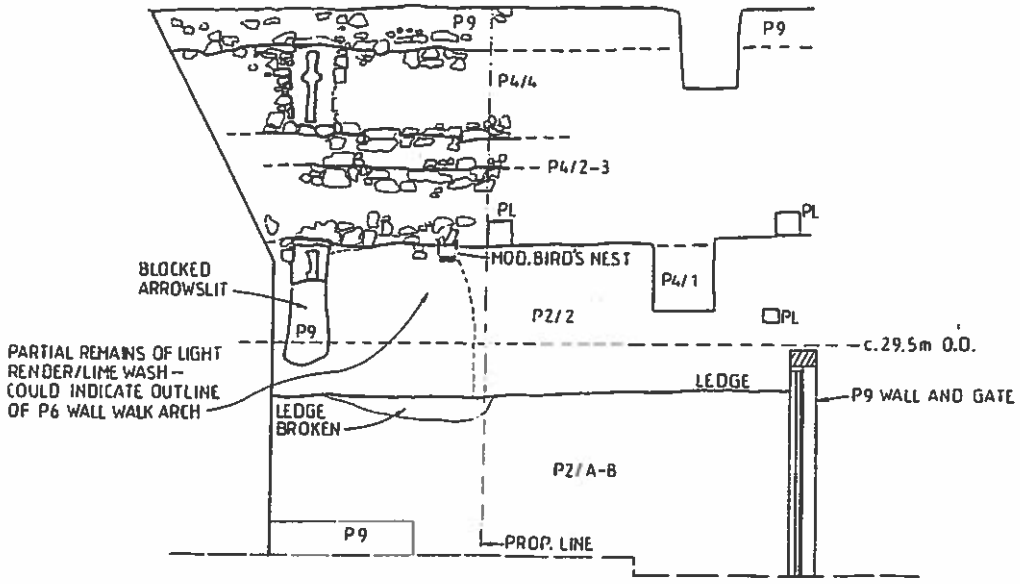
A full discussion and summary on the development and history of Tenby's Town Walls is in Section 8.00 of *Tenby Town Walls*. The results of this survey do not alter the conclusions made in 1993, when the first two stages of this project was submitted to the clients.

Salvatore Garfi MIFA
Pontrhydygroes

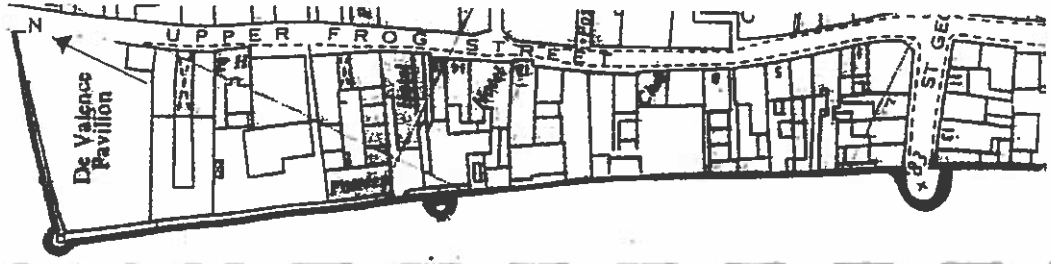
SEPT '95

DRAWING BASED ON RECTIFIED PHOTOGRAPHY
DIMENSIONAL ACCURACY WILL VARY

NORTH



13 UPPER FROG STREET (Clarice's Paint Shop)



PETER HOLDEN
CHARTERED ARCHITECTS
PENSEIRI SIARTREDIG
WATERMAN'S LANE
THE GREEN
PEMBROKE
PEMBROKESHIRE
WALES SA71 4HU
TEL 01646 683479 FAX 01646 681890

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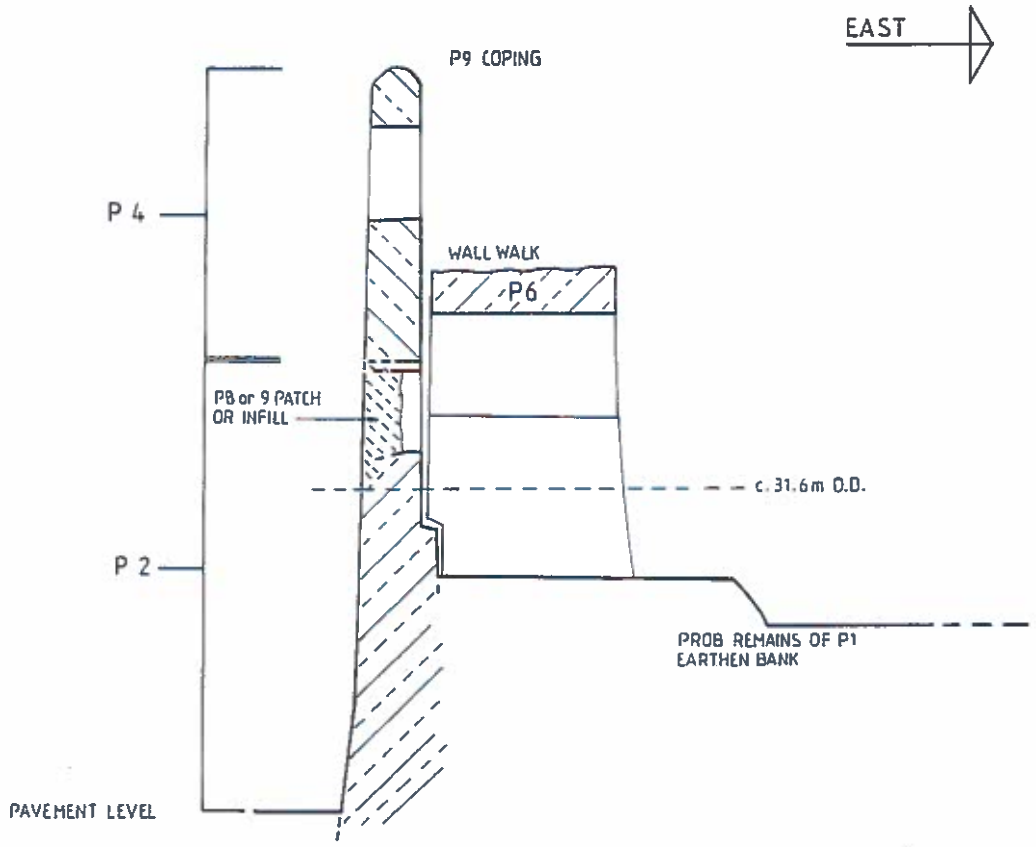
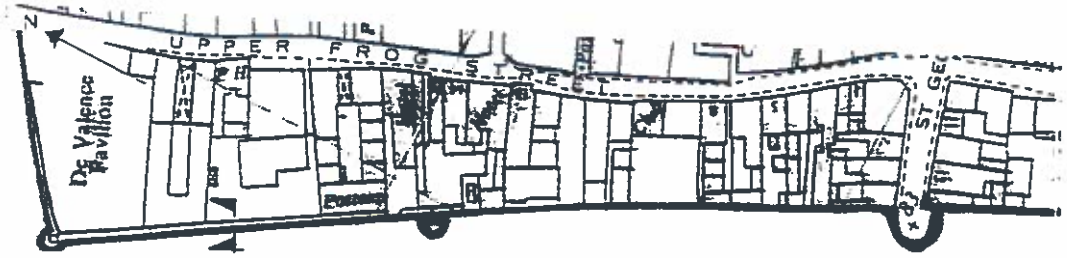


WEST-EAST SECTION THRU CURTAIN WALL
AT COBOURG HOUSE SECT. A ON DRG. 71

NB. THIS IS A REVISION OF DRG. A64 (JULY 1993)



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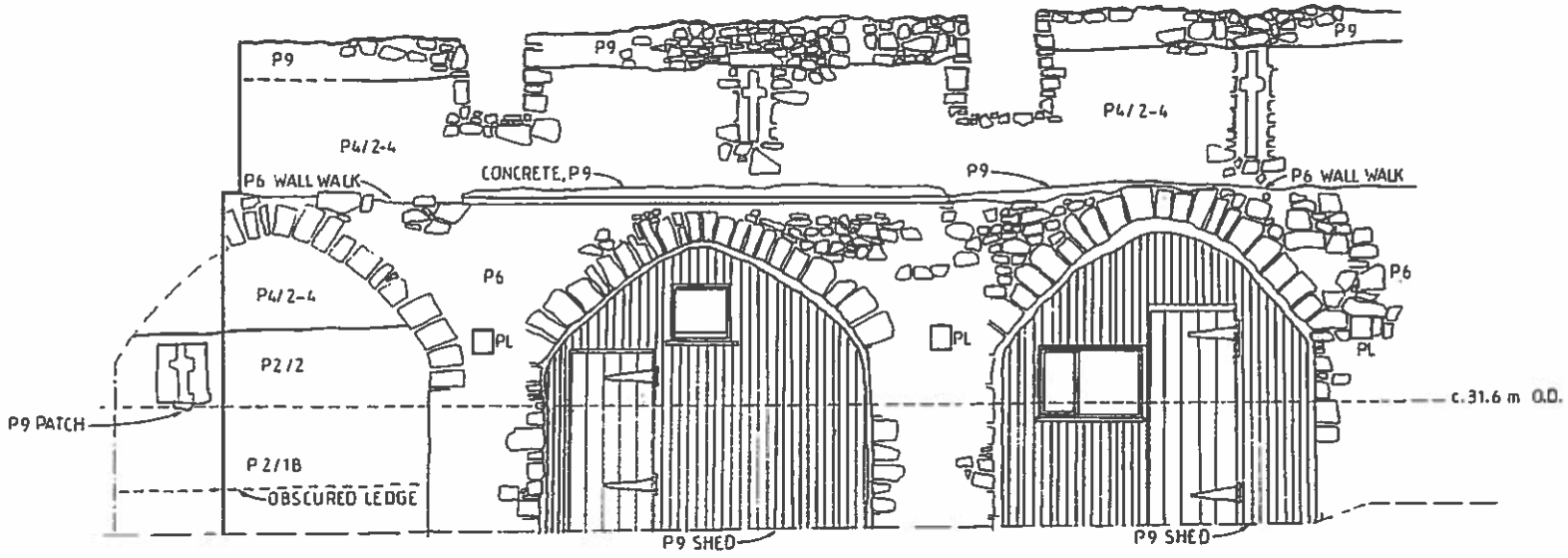

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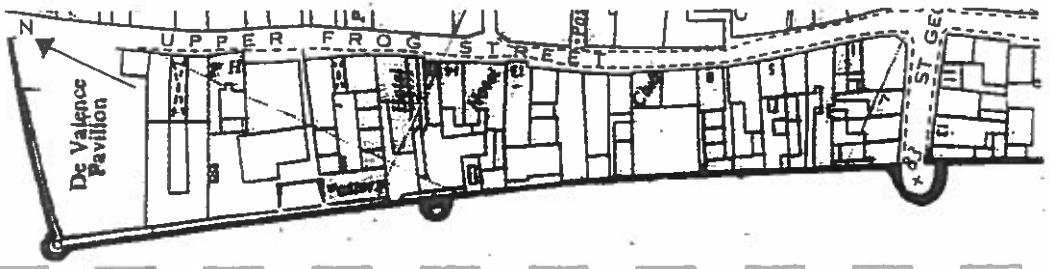

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DIMENSIONAL ACCURACY WILL VARY

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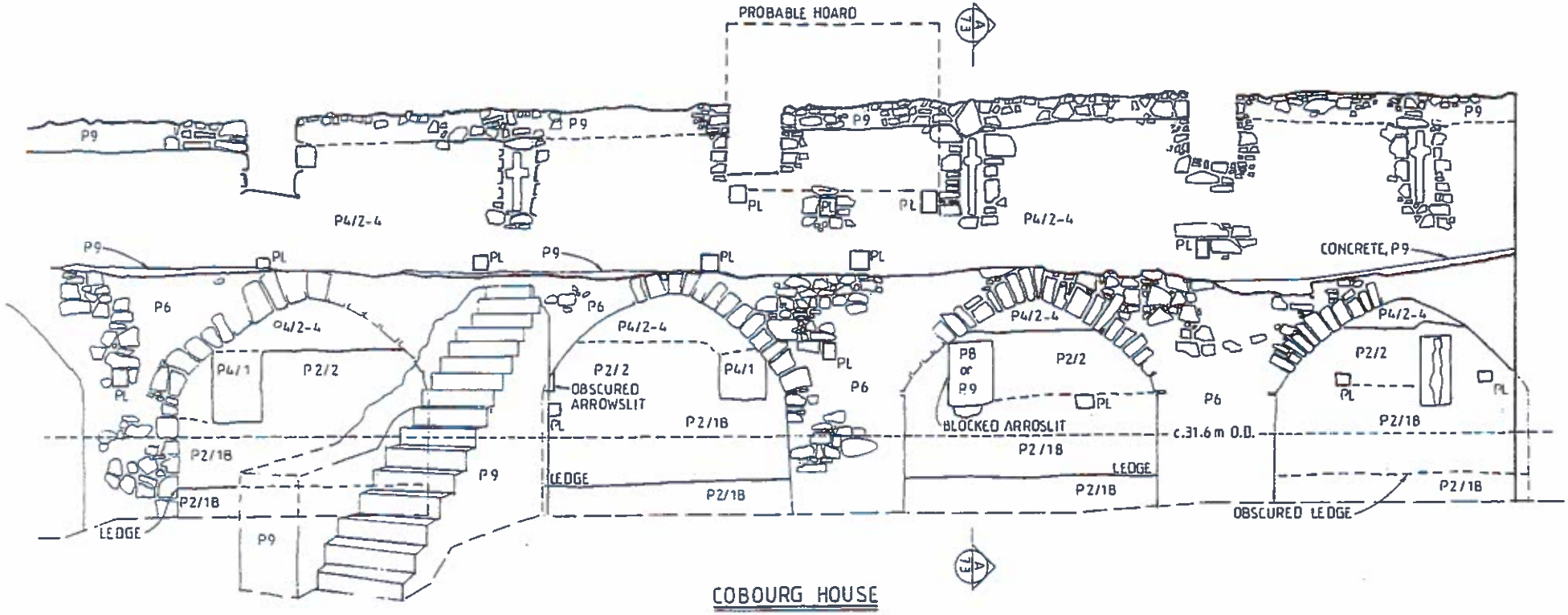

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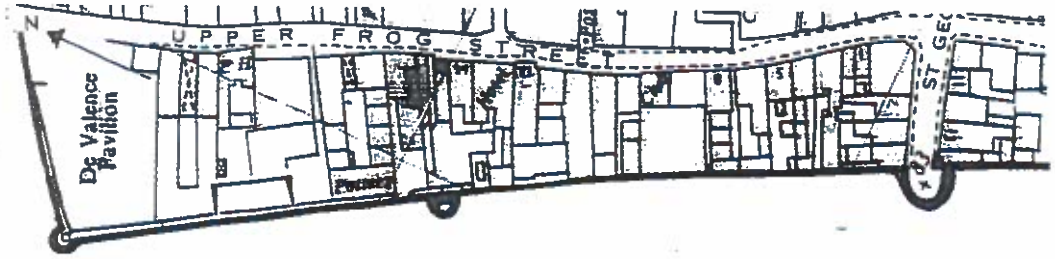

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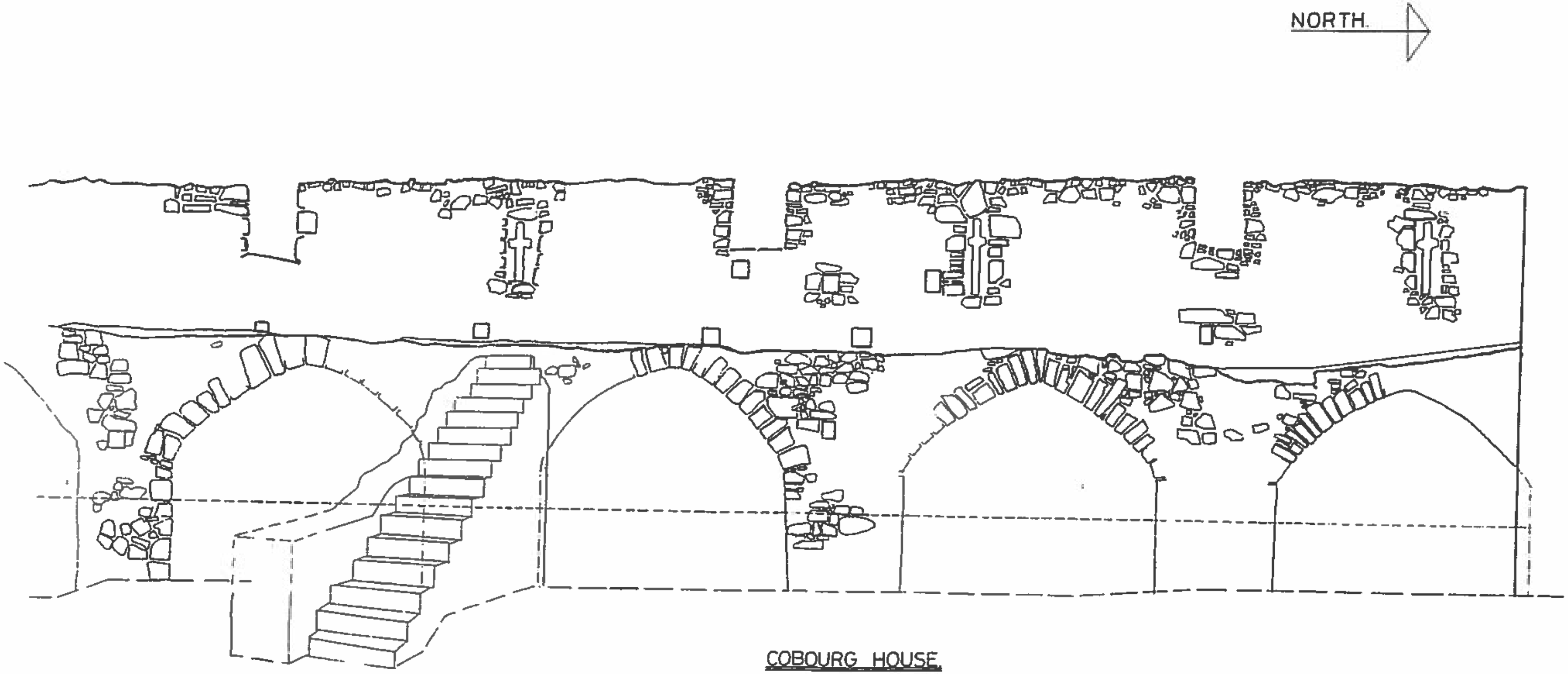

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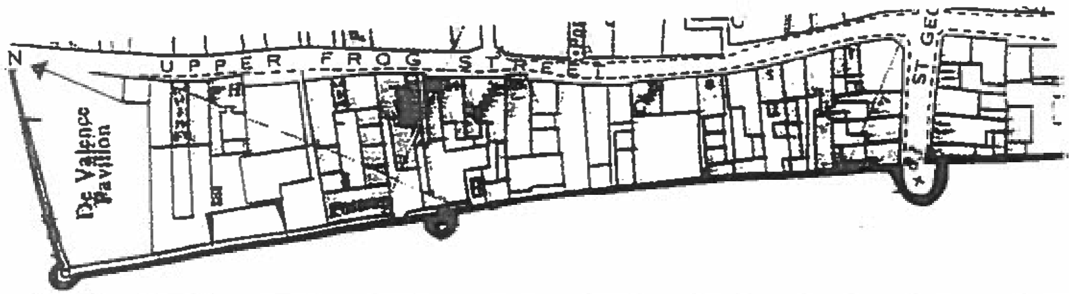

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DIMENSIONAL ACCURACY WILL VARY

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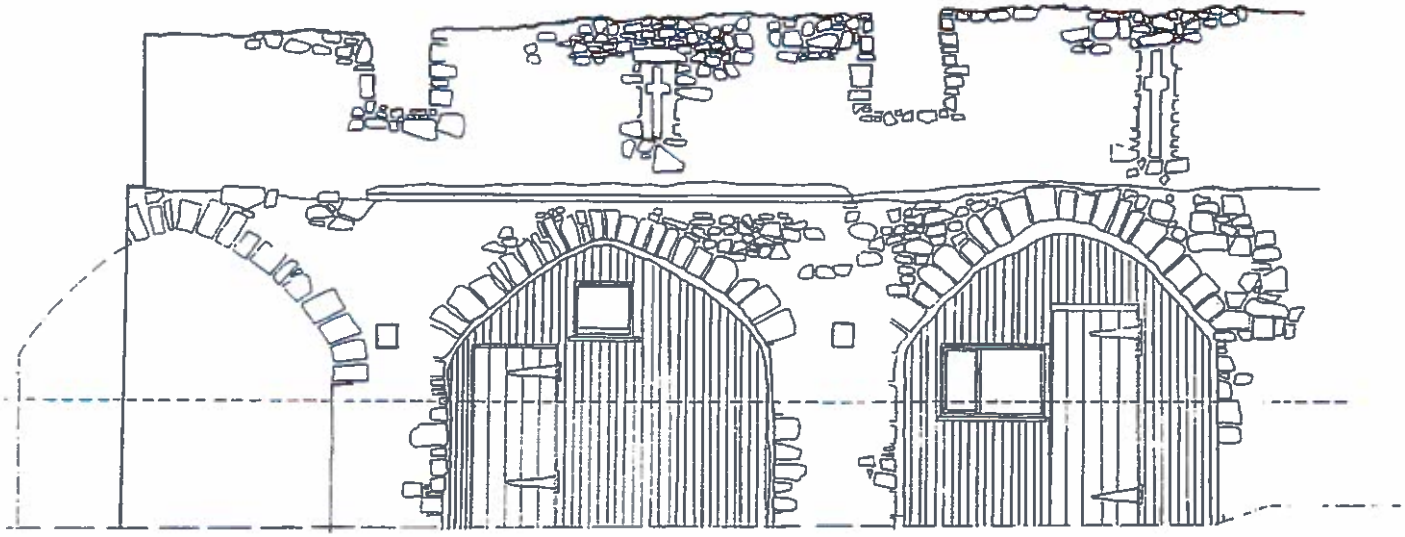

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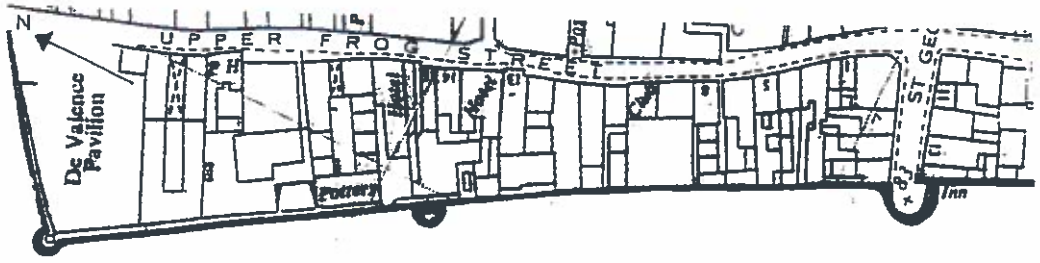

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PETER HOLDEN
CHARTERED ARCHITECTS
PENSEIRI SIARTREDIG
WATERMAN'S LANE
THE GREEN
PEMBROKE
PEMBROKESHIRE
WALES SA71 4HJ
TEL 0646 683479 FAX 0646 681880

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KEY TO THE ARCHAEOLOGICAL INTERPRETATION DRAWINGS

P2	Period 2
P2/1	Period 2, building stage 1
P2/1A	Period 2, building stage 1, lower section
P2/1B	Period 2, building stage 1, upper section
P2/2	Period 2, building stage 2
P4	Period 4
P4/1	Period 4, building stage 1
P4/2	Period 4, building stage 2
P4/3	Period 4, building stage 3
P4/4	Period 4, building stage 4
P6	Period 6
P8	Period 8
P9	Period 9

NB. *All of these period designations may not be shown on the accompanying drawings.* P4 *stage designations can also be grouped together. eg.* P4/2-3 or P4/2-4

SECTOR 1
SECTOR 2
SECTOR 3
De Valence Pavilion
Post Office
White Lion St A 4139
Park Road
Picton Road
South Cliff Street
Victoria Street
Picton Terrace
St Florence Parade
St Georges Street
Tudor Square
St Mary's Church
Harbour
Pier
Castle Hill
Castle Sands
St Catherine
South Cliff
Car Park
Bowling Green
Town Hall
Lifeboat Station
Garage
N
C
D
E
F
G
H
I
K
KEY PLAN