Archaeological Impact Assessment

Of Part 8 Planning Application For
Proposed Improved Access & Playground

In the Gardens of Mallow Castle House

Mallow Castle House - A Monument in Local Authority Ownership – SMR CO033-009002
- A Protected Structure, RPS Ref. No’s. 13-18

Client: Municipal District Operations & Rural Development Directorate
Cork County Council
Annabella House
Mallow
Co. Cork

Ministerial Consent Reference: C000676
Registration No: E0004611
Report By: Daniel Noonan, Stuart Elder & Robin Turk
DNAC Project: 018_36
Date of Report: 5th December 2019
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DRAWINGS

APPENDIX A – Archaeo-geophysical survey report by Earthsound Geophysics Ltd.

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1. Introduction

Cork County Council has appointed a Design Team, led by Brady Shipman Martin Landscape Architects (BSM) and including Daniel Noonan Archaeological Consultancy (DNAC) as archaeological consultants and Jack Coughlan Architects (JCA) as built heritage, conservation and historic landscape specialists, and others, to develop the Mallow Castle, Spa House and Town Park Development, Mallow, Co. Cork project. The project is a strategic development of the important urban centre of Mallow, through enhancement of its natural, cultural and built heritage amenities.

An emerging action of the project is a proposal to improve access to the Mallow Castle House and Demesne complex that is in local authority ownership, through the means of a Part 8 planning application for the development of a playground, car park and associated services in the former Production Gardens and Orchard of Mallow Castle House (see Drawings 01-03).

The design proposals and the rationale behind the proposals have been prepared by BSM in conjunction with Cork County Council, and all details are contained in the Part 8 planning application package, including landscape architectural design, drainage engineering, and mechanical and electrical services drawings. The Landscape Design Report prepared by BSM sets out the design development and rationale for the Part 8 application.

This document is an Archaeological Impact Assessment (AIA) of the proposed works, carried out through research, inspection, archaeo-geophysical survey and targeted archaeological test trenching. The report should be read in conjunction with information submitted in the Part 8 planning application package, and the Historic Designed Landscape Appraisal Report with Impact Assessment of Proposed Part VIII Works prepared by JCA Architects.

The archaeo-geophysical survey of the playground and car park area was carried out by Earthsound Geophysics Ltd under licence 19R0167, and is attached as Appendix A; with a summary of the results to be found below.

The targeted test-trenching was carried out under a Variation to Consent C000676, Registration Number E0004611, issued by the National Monuments Service, under Section 14 of the National Monuments Service. The results of the test trenching are included in this document.

The results of the research, site inspection, archaeo-geophysical survey and targeted test trenching have been combined to assist in the preparation of the impact assessment, and the development of the mitigation recommendations.
Figure 1: Annotated location of the Mallow Castle Complex, with Zones of Archaeological Notification shaded, from a screenshot from the National Monuments Service Historic Environment Viewer (http://webgis.archaeology.ie/historicenvironment/ - accessed 26/11/2019).
2. Assessment Methodology

This assessment of the Mallow Castle-Improved Access Part 8 Planning Application was carried out through detailed background research into the site and its location, known archaeological monuments and built heritage in the area, historical resources, archival sources and historical mapping.

The research utilised existing knowledge gathered for the creation of the *Mallow Castle House & Demesne Conservation Plan* (Noonan 2012), and more recent research gather by the Design Team, particularly from access to the uncatalogued *Mallow Castle Papers Archive* held by the Boole Library, University College Cork. An updated Historic Landscape Assessment, the *Historic Designed Landscape Appraisal Report with Impact Assessment of Proposed Part VIII Works* by JCA Architects of the Mallow Castle Demesne was drafted based on this research.

The research was used to guide a strategy of archaeo-geophysical survey of the works area and follow-up targeted archaeological test trenching, and to support the interpretation of the findings, the assessment of potential impacts of the development works, and the proposed mitigation strategies.

![Figure 2: Annotated location of the Mallow Castle Complex, showing the extent of the Part 8 application area in red, with the immediate sites and monuments indicated, and Zones of Archaeological Notification shaded, from a screenshot from the National Monuments Service Historic Environment Viewer (http://webgis.archaeology.ie/historicenvironment/ accessed 26/11/2019).](image-url)
3. Proposed Part 8 Planning Application Works

The proposed development of the walled gardens to the north of Mallow Castle House consists of improving public access to the Castle grounds and providing a natural themed, inclusive children’s playground amenity, with associated site works and landscaping. The proposed development comprises (see Drawing 03):-

- New public access to Mallow Castle grounds with new vehicular and pedestrian entrance at the northern boundary with Castlepark with 28no. space car park (4no. parent/toddler, 4 no. disabled access and 20no. visitor spaces) and visitor drop off area, requiring the demolition of part of the existing concrete block wall to Castlepark boundary, removal of a number of existing semi-mature trees, and construction of new entrance gates and railing and landscaping;
- Construction of accessible pathways from the entrance through the walled gardens to Castle Grounds;
- Construction of a natural themed, inclusive, public children’s playground amenity;
- Repairs, conservation and restoration works to existing remnant stone walls, walled garden features and glasshouse;
- New boundary fencing, gates and planting within walled gardens;
- Supporting locational and wayfinding signage, seating and services, including wayfinding signage to nearby existing car parking within Mallow town.

The proposed development will connect new services to the existing public water supply, storm sewer, and public utilities.

All details are contained in the full Part 8 planning application package, including landscape architectural design, drainage engineering, and mechanical and electrical services drawings. For assessment support purposes a selection of the drawings, consisting of location information, and existing and proposed development layouts by BSM, and drainage engineering details by Horganlynch Consulting Engineers, and mechanical and electrical service details by Varming Consulting Engineers, are included in the suite of drawings (see Drawings 03-06) attached to this assessment.
4. Synopsis of the Archaeological & Historical Context of Mallow Castle Demesne

Mallow Castle House and Demesne, including the 16th Century Fortified House – CO033-009001-, and the later Country House CO033-009002-(Mallow Castle House), its earlier gardens and other attendant buildings and curtilage are all archaeological monuments, with the attendant protections afforded to them by the National Monuments Act 1930 to 2014. The Fortified House is a National Monument, Nat. Mon. No. 281, and is in the care of the Office of Public Works. The remaining monuments on the Mallow Castle Complex are in the ownership of Cork County Council, and under current legislation are afford the same level of archaeological oversight as National Monuments; with any works to them requiring the Consent of the Minister for Culture, Heritage and the Gaeltacht under Section 14 of the National Monuments Act 1930 to 2014.

Photograph 1: Aerial view looking north of the Mallow Castle Complex, looking north with the Fortified House CO033-009001- Mallow Castle in the foreground, the Country House CO033-009002- Mallow Castle House and its formal garden in the middle ground, and the former Production Gardens and Orchard, truncated by the Castlepark development, that is subject to the Part 8 application in the background. Photograph courtesy of BSM.
The following synopsis of the archaeological potential of Mallow Castle Complex, particularly in relation to the Part 8 application area centred on the former Production Garden and Orchard, is adapted from the *Mallow Castle House & Demesne Conservation* (Noonan 2012), commissioned by Cork County Council in 2012; and should be read in conjunction with the updated research gathered for the *Historic Designed Landscape Appraisal* by JCA Architects, and the new historic landscape development analysis that it contains.

Strategically located at a crossing point on the Blackwater River, Mallow Castle and the medieval town of Mallow that developed in association with it, has long been the key urban centre in North Cork. A castle is said to have been built here in 1185 under the orders of Prince John, to protect the crossing; although the settlement proper of the town may not occurred until later in the 13th Century under the patronage of the Fitzgeralds, later Earls of Desmond (Thomas 1992, Vol.2 231).

It appears that there potentially has been a castle or some form of fortification on the Mallow Castle complex site since the 12th Century; with an intervening tower house castle (CO033-009004-) remaining on the site until the late 16th Century. The tower house appears to been removed in the later 16th Century, when as part of the forfeited lands of the Earls of Desmond, Mallow Castle, its grounds and the town came into the possession of Sir Thomas Norreys (Power et al. 2000). Sir Thomas is credited with building the Fortified House in the late 16th Century. Tradition holds that the house remained occupied until the middle of the 17th Century, when it was ruined during the Confederate Wars, and the household moved to the stables. The stables were apparently located on the site of the current Mallow Castle House, which although extensively remodelled in 19th Century by Sir Charles Denham Orlando Jephson Norreys (1799-1888) in a Gothic Revival or neo-Tudor/Jacobean style, and potentially contains fabric from earlier structures.

Mallow Castle played a pivotal part in the late 16th Century Munster Plantation, a royal sponsored scheme that was responsible for the reshaping of Ireland in the Early Modern Period. From this start the modern town of Mallow developed, from an earlier, much smaller medieval base.

The surviving demesne lands of Mallow Castle are much reduced from the nearly 800 acres that it once contained (see Figure 3). The remaining demesne lands are in Cork County Council ownership; including the formal garden to the south of Mallow Castle House and much of the former Production Garden and Orchard that were located to the north (see Figure 4).

The original grant of 6,000 acres of the manor and lands at Mallow to Sir Thomas Norreys by Queen Elizabeth I is recalled in an inquiry of James I of 1622 into the general state of Plantations in Ireland that records the following for Mallow:

> *The Seigniory of Mallo, containing 6,000 English acres, to Thomas Norris, afterwards Lord President of Munster: no abatement. This Seigniory after the death of Sir Thomas Norris*
Figure 3: Extract from the historic Ordnance Survey 1st Edition 1:10,560 mapping, Cork Sheet 033, showing the extent of Mallow Castle Demesne in 1844 outlined in blue. The extent of the 33 acres of remaining demesne lands purchased by Cork County Council in 2011 is outlined in red.
descended to Elizabeth, his daughter and heir, married to Sir John Jephson, who in her right enjoyeth the same. The principal Undertaker holdeth in demesne about 800 acres, which he intends to plant with English, supposing that, albeit the Articles of Plantation require the chief to hold a large demesne which might make him build a house proportionable, that being now performed, it will not be offensive but rather acceptable to increase the number of English inhabitants. There was built at Mallow by Sir Thomas Norris a goodly, strong and sumptuous house, upon the ruins of the old castle, with a bawn to it, about 120 foot square and 18 foot in height and many convenient houses of office. Also two gardens and an orchard, containing about four acres of ground, one garden being walled with a stone wall, twelve foot in height. The other garden and orchard strongly fenced. In which in the time of the late war lay a garrison of 600 men (Dunlop & O’Brien 1924, cited in Noonan 2012).

What is of interest here is the size of the demesne, given as 800 acres, and the presence of two gardens and an orchard totalling four acres, which would not appear to be much smaller than the later gardens seen throughout the historic Ordnance Survey mapping.

The estate of 6,000 acres appears to have been greatly reduced in size early in the seventeenth century with a sale of Mallow lands to Sir Richard Boyle by Sir John Jephson in 1623, for the substantial fee of £28,076, 12s. 6d. (Canny 2001, 324-325, cited in Noonan 2012). The core around the castle appears to have been retained to form the demesne lands that developed, as conclude in the Historic Designed Landscape Appraisal, from the 17th Century onwards; and potentially retains landscape features of that period such as the general field systems and walks and avenues.

The gardens into which the new works are to be introduced appear to be in existence in their current guise, as largely depicted in the 1st Edition Ordnance Survey, since at least the late 18th Century. The current arrangement of a walled garden close to the house, with a ‘hothouse’ garden with greenhouse beyond, and the orchard remaining beyond that, are a product of the reordering of the estate by Sir Charles Jephson across the 19th Century.
Figure 4: Extract from the historic Ordnance Survey 1st Edition 1:10,560 mapping, Cork Sheet 033, showing the extent of Mallow Castle House gardens in 1844 outlined in brown. The formal Pleasure Garden is to the south of the House, and the Production Garden & Orchard is to the north. The red line is the Cork County Council ownership extents, with the lands to the north of the line now part of the Castlepark housing development.
5. Site Inspection

As part of this assessment, a detailed walkover of the proposed work area in the Mallow Castle Complex was carried out. The Part 8 application works are proposed for the former Production Garden and Orchard located to the immediate north of Mallow Castle House (see Photograph 1 above). Prior to the development of the Part 8 concepts the site varied from simple grass cover to overgrown vegetation, and an initial action was to carry out a programme of controlled vegetation clearance, to allow for a better understanding of the nature, location and extents of the various features that are contained within the site.

Photograph 2: Vertical view of the extent of the remains of former Production Garden and Orchard in the Mallow Castle Complex.

The surviving area of the Production Garden and Orchard amounts to approximately 1.6 hectares; divided into five parcels or plots (see Photograph 2; Drawing 02). Working from west to east, the first plot is a roughly rectangular grassed area (Photographs 3-4), formed by the Granary Court development to the west, the Castlepark development to the north, and the upstanding limestone rubble garden walls (Photograph 5) to the east and south. This area returned several anomalies from the archaeo-geophysical survey. However, no surface indicators of them or other potential features of interest were noted. The Ice House CO033-009003- would have been close to the northern extent of this plot, but was removed with the creation of the access road into Castlepark in 1997. This plot is the location for the proposed Car Park.

A roughly rectangular plot to the east of the proposed car park contains the upstanding remains of one of the mid-19th Century greenhouses built by Sir Charles Jephson in 1862 (Photograph 6); along with associated water tanks, forcing pits and a boiler house. The Historic Designed Landscape
Photograph 3: Aerial view of the proposed Car Park location, looking west.

Photograph 4: Ground level view of the proposed Car Park location, looking southeast from the northwest corner.

Photograph 5: Limestone rubble boundary wall to the Production Gardens. Note the blocked gate through the wall.
Appraisal Report contains details of the greenhouse and associated features, while a scheme of consolidation works have also been prepared. To the east of the plot containing the upstanding greenhouse, a smaller rectangular plot is formed by the large beech hedging boundary (common to the plot to the west), the concrete block boundary wall to Castlepark to the north, and a raised landscape ditch to the east, while the plot is open to the site of the walled garden to the south. There are no surface indicators of subsurface archaeological material in this plot. This plot will form part of the proposed Playground.

The easternmost plot (Photographs 7-8) of the surviving gardens is formed by the boundary to Castlepark to the north, the line of the raised landscape feature the Long Walk to the west, the grass embankment to the south and the common limestone wall of the walled garden that is to the southwest. The Long Walk is a raised platform or pathway approximately 0.8m above the surrounding ground level, approximately 1.8m wide and formed by two parallel fences of trees. Originally longer and continuing in a general northeast direction shown in the historic mapping, approximately 60m of the Long Walk (of potential late 17th or early 18th Century origin) survives (Photograph 9). This plot of land also contains the Long Avenue, another surviving feature of the historic design landscape of the Mallow Castle Complex. The avenue is fossilised in the compacted earth and gravel path that runs the full length of the plot, roughly south to north for approximately 85m, to where it has been truncated by the Castlepark road.

The southernmost plot of the surviving Production Gardens is the walled garden, formed by the rubble limestone walls to the north and east and the retaining wall of the Back Avenue to the south and the boundary wall to the west facing the Farm Buildings. This garden features beech hedging around the perimeter.

During the course of the site inspection no new features, beyond those captured during site assessment and survey (see Drawing 02), were observed. Nor were any surface indicators of the archaeo-geophysical survey anomalies observed.
Photograph 6: Surviving 1862 greenhouse, following vegetation clearance.

Photograph 7: Aerial view of the easternmost plot of the Production Garden, into which the proposed Playground will be introduced.

Photograph 8: View of the easternmost plot from the access gate to the south, looking north.

Photograph 9: Steps giving access to the Long Walk.
6. Results of Archaeo-Geophysical Survey

The following is the summary results of the geophysical survey of the gardens and deer paddock; see Drawing 08 for the geophysical survey results interpretation. The full report by Earthsound Geophysics is attached as Appendix A.

Between the 6th and 14th of August 2019, a geophysical survey was conducted over two sites/six fields within the grounds of Mallow Castle (RMP No. CO033-009002-), Castlelands, Mallow, Co. Cork. An earth resistance survey was undertaken at a sample resolution of 1m x 0.5m over a total of two hectares.

The survey was conducted upon a bedrock geology consisting of Waulsortian Limestones, beneath acid brown earths and brown podzolics, surface water gleys and groundwater gleys and some areas of made ground. The majority of the survey area was covered in short grass with areas of knee-high grass and cleared vegetation also present. The presence of vegetation, trees and buildings also restricted the survey.

The geophysical surveys undertaken for this report have revealed a large number of potential archaeological features. Two of these can be firmly linked to a building and pathway shown on the historic mapping, other boundary features and potential structural remains may also link to features shown on historic mapping.

However the vast majority of the anomalies detected appear to be previously unknown. A number of possible structural elements have been recorded, while other associated pathways and boundaries can also be seen.

The majority of the anomalies are however, likely to correspond to garden archaeology, either being caused by the presence of former flowerbeds, boundaries or associated with site clearance. All these activities are indistinguishable within geophysical data and therefore the anomalies will need to be archaeologically investigated to distinguish there true origins.
7. Results of Targeted Test Trenching

Targeted archaeological test trenching was undertaken between 29th October and 8th November 2019, and involved the excavation and recording of 17 trenches using a mechanical excavator with 1.65m wide toothless bucket.

The geophysical survey had identified a range of Low Resistance and High Resistance anomalies, and the locations of the test trenches were such that they would intersect with, and hope to identify the nature and extent of any potential archaeological features suggested by the geophysics.

Geophysics appeared to confirm the presence of subsurface remains relating a large mid-19th Century greenhouse structure (similar in nature to the upstanding example) identified on historical mapping and aerial imagery, as well as numerous linear anomalies presumably relating to earlier garden features and/or pre-modern boundary layouts.

The following are the results of the test trenching, the layout and locations of which can be found in Drawings 09-15. Trenches 1-5 were focused on the proposed Car Park location (formerly the Production Garden area containing the greenhouses or hothouses); Trenches 6-12 and extra Trench 21 on the proposed Playground location (formerly the Orchard area); Trenches 13-15 on the western part of the Deer Paddock (in advance of possible future development of a deer management facility); and of a proposed array of Trenches 16-20 in the eastern part of the Deer Paddock, only Trench 20 was excavated.

Photograph 10: Test Trench 1, looking northeast.

Trench 1

Length: 11.60m NE-SW
Width: 1.65m
Depth: 0.19-0.30m
0.00-0.10m Dark greyish brown silty clay topsoil.
0.10-0.22m Mixed dark greyish brown/dark yellowish brown sandy clay silt containing frequent sub-rounded and rounded stones, red brick fragments, and occasional charcoal flecks.

0.22-0.30m Pale orangey brown sandy clay silt subsoil, containing occasional sub-angular limestone fragments and sub-rounded cobbles.

Features noted:

F1.1 A rounded terminal corresponding to short linear anomaly on geophysics plot, 2.81m from the eastern end of the trench. Measured 1.43m in width and 0.13m maximum depth. Not of archaeological significance.

Photograph 11: Composite view of Greenhouse remains uncovered in Trench 2, east to the top.

Trench 2

Length: 37.60m NNE-SSW

Width: 1.65m

Depth: 0.20-0.60m

0.00-0.10m Dark greyish brown silty clay topsoil.

0.10-0.30m Mixed dark greyish brown/dark yellowish brown sandy clay silt containing frequent sub-rounded and rounded stones, red brick fragments, mortar, and occasional charcoal flecks.

0.30-0.60m Pale orangey brown sandy clay silt Subsoil, containing occasional sub-angular limestone fragments and sub-rounded cobbles.

Features noted (south to north):

F2.1 NNE-SSW aligned 0.42m wide linear pathway comprising medium-sized sub-angular and angular stones, red brick fragments, mortar, and occasional 19th/20th Century ceramics. Extends beyond the southern edge of excavation to meet with F2.2 at a point 18.60m from the southern end of the trench.

F2.2 E-W orientated random stone wall comprising large irregular limestone flags up to 0.50m by 0.50m by 0.06-0.10m thick, at a depth of 0.55m below present, with several courses visible. Above and to the South of this, was a 0.51m wide deposit of slightly smaller sub-angular and angular limestones representing wall slump and robbing waste. On the northern side, a 0.91m wide band of smaller angular and sub-angular stones represented rubble infill.

F2.3 2.34m north of F2.2 was a stone-built pillar, fashioned from rectangular limestone blocks with occasional red bricks. The whole measured 0.46m by 0.43m, and had a visible depth of 0.45m.

F2.4 A further 1.30m to the north lay a composite wall and floor surface comprising a 0.34m wide stone wall with a 0.11m wide Dutch (yellow) brick facing to the north. A thin line of dark brown soil containing remnants of decayed wood and plate glass shards lay between the brick facing and a red Earthenware tile surface of 0.92m width. A single line of angular...
limestones lay on the northern side of the tiled area, separating it from an area of cobbling (F2.5).

F2.5 A 1.76m wide area of cobbling, comprising small rounded and sub-rounded water-worn stones, formed a possible external surface.

F2.6 E-W linear arrangement of large angular limestones of up to 0.36m wide, with slightly smaller stones to the South forming a 0.32m wide area of collapse.

The features in this trench represent the remains of a large greenhouse, noted on Geophysics, and recorded on historical maps and aerial photography. The remains suggest that this greenhouse was of very similar construction to the smaller, extant greenhouse to the east.

Uncatalogued drawings in Folder 126 of the Mallow Castle Archive Papers, held in the Boole Library UCC, contain a suite of pen and ink coloured drawings of the greenhouses, which were completed in October 1862 under the direction of Sir Charles Denham Orlando Jephson Norreys (1799-1888).

Unfortunately, the structure has been extensively demolished and recycled, and there is nothing of sufficient significance remaining to preserve in-situ.

Uncatalogued drawings in Folder 126 of the Mallow Castle Archive Papers, held in the Boole Library UCC, contain a suite of pen and ink coloured drawings of the greenhouses, which were completed in October 1862 under the direction of Sir Charles Denham Orlando Jephson Norreys (1799-1888).

Unfortunately, the structure has been extensively demolished and recycled, and there is nothing of sufficient significance remaining to preserve in-situ.

Photograph 12: Pathway in Trench 2, looking northwest.

Trench 3

Length: 14.75m NNW-SSE
Width: 1.65m
Depth: 0.24-0.60m

<table>
<thead>
<tr>
<th>Depth Range</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00-0.10m</td>
<td>Dark greyish brown silty clay topsoil.</td>
</tr>
<tr>
<td>0.10-0.30m</td>
<td>Mixed dark greyish brown/dark yellowish brown sandy clay silt containing frequent sub-rounded and rounded stones, red brick fragments, mortar, and occasional charcoal flecks.</td>
</tr>
<tr>
<td>0.30-0.60m</td>
<td>Pale orangey brown sandy clay silt subsoil, containing occasional sub-angular limestone fragments and sub-rounded cobbles.</td>
</tr>
</tbody>
</table>

Features noted (north to south):

F3.1 Shallow linear measuring 0.72m wide and 0.05m deep, running NE-SW across the northern end of the trench. Most likely a lazy bed or other garden feature.

F3.2 Stub of limestone and red brick wall 0.38m wide, in line with wall F2.6 in Trench 2.
Trench 4

Length: 12.00m NE-SW
Width: 1.65m
Depth: 0.41-0.54m

0.00-0.30m  Dark yellowish brown silty clay Topsoil.
0.30-0.40m  Mid yellowish brown silty clay containing frequent sub-rounded and sub-angular stones.
0.40-0.54m  Pale orangey brown sandy clay silt Subsoil, containing occasional sub-angular limestone fragments and sub-rounded cobbles.

Features noted:

F4.1 A single feature comprising a SSE-NNW orientated linear pathway measuring 2.41m wide and 0.20m maximum depth, and appearing to correspond to the geophysical trace in the same location. The path was made up mainly of sub-angular limestone fragments, with inclusions of red brick, mortar, small sub-rounded stones, vessel and window glass, and late 18th-20th Century ceramics.

Photograph 13: Section through curvilinear in Trench 5, looking northeast.

Trench 5

Length: 25.00m WNW-ESE
Width: 1.65m
Depth: 0.25-0.70m

0.00-0.20m  Dark yellowish brown silty clay topsoil.
0.20-0.55m  Mid yellowish brown silty clay containing frequent sub-rounded and sub-angular stones.
0.55-0.70m  Pale orangey brown sandy clay silt subsoil, containing occasional sub-angular limestone fragments and sub-rounded cobbles.

Features noted (west to east):

F5.1 N-S orientated stone-built lintelled field drain measuring 0.40m in width and 0.19m in depth, located 0.90m from the Western end of the trench.
F5.2 NE-SW orientated pathway comprising a 1.03m wide band of small sub-rounded pebbles, located 4.73m from the Western end of the trench.

F5.3 NE-SW orientated linear feature measuring 2.75m in width, and with a depth of at least 0.55m. The linear had a stepped V-shaped profile, being shallow to both sides, and deepest in the middle third. The linear contained at least three separate deposits including a large amount of redeposited subsoil that was slumped into the eastern side. The predominant deposit on the western side however, contained oxidised material towards the base, and a rich layer of charcoal. At the shallower eastern side, there was a 0.30m deep tapered posthole with a rounded base, measuring approximately 0.18m in diameter, and 0.06m in diameter at the base.

F5.4 To the East of F5.3, there was a single oval feature measuring 0.38m E-W by 0.33m, and 0.20m deep. It had a shallow U-shaped profile with slightly undulating base, and a single homogenous fill.

Features F5.2 and F5.3 correspond broadly to geophysical traces, and can be interpreted as a garden path and curvilinear enclosure respectively.

The curvilinear F5.3 may have had an inner palisade, as evidenced by the posthole to the eastern side, and an inner embankment. A possible secondary posthole located a short distance to the east (F5.4) may be related to the possible palisade. Research contained in the *Historic Designed Landscape Appraisal Report* has found that the forerunner of the present walled garden was established around the site of the Fortified House – Mallow Castle, in the early 17th Century, with large areas of palisade fenced grounds and paddocks within a demesne landscape. F5.3 may be part of this system; although no dateable material was recovered from it.

Photograph 14: Trench 6, looking southwest.

Trench 6

Length: 29.30m NNE-SSW
Width: 1.65m
Depth: 0.26-0.49m

0.00-0.14m Very dark greyish brown moist and well-rooted silty clay topsoil. Depth in places reached 0.34m.

0.14-0.49m Pale orangey brown sandy clay silt subsoil, containing occasional sub-angular limestone fragments and sub-rounded cobbles.

Features noted (south to north):
F6.1 At the very southern end of the trench, a band of gravel and sub-angular limestone fragments indicated the presence of a track leading into the Gardens area through a set of recently painted red wrought-iron gates in the possible mid-19th Century garden wall to the southeast corner of the plot.

F6.2 A NE-SW orientated linear appeared to terminate approximately halfway into the trench from the eastern side, and did not appear on the geophysics plot. It had a steep V-shaped profile, was 0.86m in width, and at least 0.56m in depth. The single fill was a dark yellowish brown silty clay containing occasional charcoal flecks and small sub-rounded stones.

F6.3 Roughly circular feature measuring 0.19m in diameter, and having a depth of 0.08m. The well-rooted dark greyish brown fill indicated that this probably represents a horticultural origin.

F6.4 A roughly E-W linear feature entered the trench from the western side, and terminated in a rounded end. It measured 0.86m in visible length, had a 0.23m wide stepped U-shaped profile, and was 0.31m deep. It contained a single fill of mid orangey brown silty clay, with occasional charcoal flecks, glass, red brick and oyster shell inclusions.

The features in this trench most likely represent horticultural activity, in the form of drainage (F6.2), shrub planting (F6.3) and linear planting beds (F6.4).

Photograph 15: View across track in Trench 7, looking northwest.

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**Trench 7**

Length: 20.75m N-S

Width: 1.65m

Depth: 0.26-0.34m

0.00-0.15m Dark yellowish brown silty clay topsoil, with a depth of up to 0.23m in places.

0.15-0.26m Mid greyish brown silty clay containing occasional sub-rounded stones, red brick fragments, charcoal, glass, white-glazed ceramics, and corroded iron objects.

0.26-0.34m Pale orangey brown sandy clay silt subsoil, containing occasional sub-angular limestone fragments and sub-rounded cobbles.

Geophysical survey indicated the possible presence of an E-W aligned rectangular structure, and Trench 7 was designed to intersect both the northern and southern walls. Several apparent features were investigated, which had the initial appearance of rubble stone walls, but were found not to be of archaeological significance. No evidence for the survival of the rectangular structure suggested by the geophysics was uncovered.
Features noted (south to north):

F7.1 At the very southern end of the trench, a band of gravel and sub-angular limestone fragments indicated the presence of a track leading into the Gardens area through a set of red gates to the W. Corresponds to F6.1.

F7.2 Narrow line of cobbles within a shallow linear depression, orientated NW-SE. Immediately to the N was a single layer of loosely-arranged cobbles, visible mostly in the western baulk. Appears to be an informal track orientated towards a recent gap in the boundary to the eastern side of the Gardens.

F7.3 Loose assortment of sub-rounded and sub-angular limestones and red brick fragments, orientated NE-SW. Upon investigation, this was found to be a covering for a junction of two iron water pipes with brass fittings.

Trench 8

Length: 10.80m NE-SW
Width: 1.65m
Depth: 0.21-0.32m

0.00-0.11m Dark greyish brown silty clay topsoil, with a depth of up to 0.27m in places.
0.11-0.21m Dark yellowish brown silty clay containing occasional sub-rounded stones, red brick fragments, charcoal, glass, and white-glazed ceramics.
0.21-0.32m Pale orangey brown sandy clay silt subsoil, containing occasional sub-angular limestone fragments and sub-rounded cobbles.

Features noted:

F8.1 As with Trench 7 above, Trench 8 was designed to intersect a possible rectangular structure noted on geophysics. Upon investigation however, there appeared to be a modern machine-cut test pit, but nothing of archaeological significance was noted.

As with Trench 7 above, Trench 8 was designed to intersect a possible rectangular structure noted on the geophysics. However, upon investigation there appeared to be a modern machine-cut test pit here, but nothing of archaeological significance was noted.

Trench 9

Length: 8.10m NE-SW
Width: 1.65m
Depth: 0.25m

0.00-0.15m Dark greyish brown well-rooted sandy silt topsoil containing occasional sub-angular and sub-rounded pebbles and fine gravel.
0.15-0.25m Mixed mid greyish brown and pale orangey brown silty clay subsoil in alternating bands.

Geophysics had identified a zone of low resistance in the vicinity, and Trench 9 was designed to intersect it. Upon investigation, it appears to have been a natural patch of hard-packed stony subsoil, and therefore nothing of archaeological significance was noted.

Trench 10

Length: 55.60m NE-SW
Width: 1.65m

Depth: 0.17-0.29m

0.00-0.18m Dark reddish brown well-rooted sandy silt topsoil containing occasional sub-angular and sub-rounded pebbles and fine gravel. Depth of topsoil varied from 0.09-0.18m.

0.17-0.29m Pale orangey brown silty clay subsoil, containing occasional sub-angular limestone fragments and sub-rounded cobbles.

Geophysics suggested that the remains of a large E-W orientated structure (also shown on the 1st Edition Ordnance Survey 1844 – see Figure 3 above) may be present in the southern half of the Orchard, and if so, Trench 10 should intersect with walls and floor surfaces. A distinct lack of positive building remains were noted however, and as a result, two small areas towards the northern end of the trench were excavated to a depth of 0.60m below present, in order to ensure that subsoil level was properly identified. The features that were noted in the trench were mostly pits, and likely to be horticultural in nature; and may be associated with an area of deciduous tree plantation that appears in this locality on the historic Ordnance Survey mapping of the latter 19th Century, when the gardens were rearranged by Sir Charles Jephson when he added the greenhouses and possibly the upstanding garden walls?

Photograph 16: Wall and cobbled surface in Trench 10.

Photograph 17: Cluster of features in Trench 10.

Features noted (south to north):
F10.1 Located partly beneath the western baulk was a 1.29m wide subcircular feature with a single fill of mid greyish brown sandy clay silt containing occasional small rounded pebbles and fragments of red brick. Maximum depth was 0.06m.

F10.2 Also partly beneath the western baulk, a 1.39m wide subcircular with a depth of 0.20m. It was filled by mid greyish brown silty clay containing occasional small stones, charcoal flecks, slate fragments, red brick and two iron nails.

F10.3 A 0.77m diameter circular feature with a depth of 0.17m. It was filled by a well-rooted mid greyish brown silty clay, containing occasional charcoal flecks, green bottle glass and ceramics.

F10.4 Partly under the western baulk, this feature measured 0.40m NE-SW and was 0.12m deep. It was filled by a well-rooted mid greyish brown silty clay, containing occasional charcoal flecks, green bottle glass, iron nails, ceramics, and a clay pipe fragment.

F10.5 A 0.17m diameter by 0.13m deep circular feature filled by a well-rooted mid greyish brown silty clay, containing occasional charcoal flecks, green bottle glass, iron nails, and earthenware.

F10.6 With a diameter of 0.55m and a depth of 0.06m, this feature was filled by a well-rooted mid greyish brown silty clay, containing occasional charcoal flecks, green bottle glass, iron nails, and earthenware. It appears that pits 10.3 and 10.6 were connected by a shallow linear of 0.33-0.42m width, containing medium-sized angular stones.

F10.7 E-W orientated limestone wall comprising large sub-angular stones, with a width ranging from 0.43m to 0.75m. During cleaning, several items were noted within the stones, including green glass bottle fragments, a fragment of green spun window glass, several iron nails, red brick fragments and a single lead musket ball.

F10.8 Abutting the wall on its northern side, was a cobbled surface, with an exposed width of 0.63m.

F10.9 A 0.70m diameter feature with a depth of 0.14m, filled by well-rooted mid greyish brown sandy silt containing occasional red brick fragments.

F10.10 Ovoid feature measuring 0.66m NE-SW by 0.58m, and filled by a very well-rooted mid greyish brown sandy silt containing occasional glass and charcoal flecks. – Not Excavated

F10.11 A 0.70m diameter and 0.15m deep circular feature located close to the junction with Trench 21. It was filled by well-rooted dark yellowish brown stony silty clay with pale yellowish brown redeposited natural, and very occasional charcoal flecks.

F10.12 To the north of Trench 21, a 0.50m diameter feature 0.15m deep was noted. It was filled by a well-rooted dark greyish brown silty clay containing frequent small sub-angular and sub-rounded stones, and occasional charcoal flecks.

F10.13 Gravel over stone track, perpendicular to the Long Avenue. Most likely an alternate alignment of track F10.14/F7.1.

F10.14 Gravel and sub-angular limestone fragments at the northernmost end of the trench indicated the presence of a track leading into the Gardens. Indicated on the 1878 Ordnance Survey 1-500 mapping (see Drawing 16) and likely corresponding to F7.1 and F6.1.

Aside from the wall and cobbled surface, which did not correspond to the geophysical anomaly, the bulk of the features in this trench were shallow pits in a roughly similar alignment, most likely representing formal plantings, possibly for the new tree plantation that appears on the latter Ordnance Survey maps of the site. The finds uncovered are all late-19th Century in date, and probably represent domestic waste from the estate that was incorporated into the composting and manuring works of the working gardens.
Trench 11

Length: 24.95m NW-SE
Width: 1.65m
Depth: 0.15-0.26m

0.00-0.14m  Mid reddish brown well-rooted sandy silt topsoil containing occasional sub-angular and sub-rounded pebbles and fine gravel.

0.14-0.26m  Pale orangey brown silty clay subsoil, containing occasional sub-angular limestone fragments and sub-rounded cobbles.

F11.1 0.50m wide and 0.07m deep NE-SW orientated linear feature. Shallow U-shaped profile, filled with sticky dark yellowish brown silty clay containing moderate sub-rounded and sub-angular stones.

F11.2 Circular feature with U-shaped profile measuring 0.85m diameter by 0.15m deep, filled by charcoal-rich dark greyish brown silty clay containing moderate sub-angular stones and sub-rounded gravel.

F11.3 Oval feature with U-shaped profile, measuring 0.80m NNE-SSW by 0.58m, and 0.22m deep. Filled by dark greyish brown silty clay containing moderate sub-angular stones and occasional sub-rounded gravel, occasional burnt stones, with a distinct charcoal-rich layer towards the base.

F11.4 0.50m wide and 0.10m deep NE-SW orientated linear feature. Shallow U-shaped profile, filled with sticky dark yellowish brown silty clay containing moderate sub-rounded and sub-angular stones.

F11.5 Fine crushed limestone chippings forming the modern surface to the present alignment of the Long Drive. This feature was not excavated, but it was apparent that this surface overlies several layers of cobbling.

F11.6 On the eastern side of the Long Avenue, an irregular jumble of sub-angular and sub-rounded limestones in a dark yellowish brown silty clay soil was removed to reveal a well-constructed kerb feature set back from the present (visible) edge by around 1m.

The above linear and circular/oval features were apparently mirrored along the western side of the Long Avenue, and are possibly a kerbing effect be associated with ornamental planting of shrubs/trees and/or floral borders, as shown on the 1878 Ordnance Survey 1-500 mapping (see Drawing 16).

Photograph 18: Cobble kerbing to east of the Long Avenue, Trench 11, looking southeast.
**Trench 12**

Length: 15.80m NW-SE  
Width: 1.65m  
Depth: 0.20m  

0.00-0.16m  Dark reddish brown well-rooted sandy silt topsoil containing occasional sub-angular and sub-rounded pebbles and fine gravel.  
0.16-0.20m  Pale orangey brown silty clay subsoil, containing occasional sub-angular limestone fragments and sub-rounded cobbles.  

Features noted (east to west):  
F12.1  A 2m wide gravel path comprising sub-rounded and sub-angular pebbles in a very dark brown sandy silty clay matrix, to a depth of 0.05m. Fine limestone sub-angular gravel layer below.  
F12.2  A 2.5m wide rubble band comprising sub-angular limestone fragments, red brick, rounded cobbles and pale grey mortar, in a dark yellowish brown sandy silty clay matrix. Directly below the rubble layer, a 0.80m wide roughly-hewn limestone wall was noted at a depth of 0.20m below present, and which extended to a depth of at least 0.35m with several courses visible.  
F12.3  A 2.3m wide band of small sub-angular stones and fine gravel, moderate sub-rounded and sub-angular cobbles, in a dark yellowish brown sandy silty clay matrix.  

F12.1 corresponds to the path leading to the steps at the southern end of the Long Walk, and F12.2 appears to represent a stone wall along its western side. F12.3 is another pathway further west.  

Photograph 19: View of path to Long Walk in Trench 12, looking north.

**Trench 13**

Length: 76m NNE-SSW  
Width: 1.65m  
Depth: 0.31-0.40m  

0.00-0.15m  Dark yellowish brown silty clay topsoil, with a depth of up to 0.20m in places.  
0.15-0.25m  Mid greyish brown silty clay containing occasional sub-rounded stones.  
0.25-0.40m  Pale orangey brown sandy clay silt subsoil, containing occasional sub-angular limestone fragments and sub-rounded cobbles.
Close to the intersection of Trenches 13 (T13) and 14 (T14), an E-W linear feature F13.1 was noted crossing T13, and appearing in the eastern arm of T14. The trench was extended west of T13 and south of T14 at this point, in order to gain a better picture of the nature and extent of the feature. It was visible to at least 8m in length, continuing west beyond the edge of excavation, and had a width of 0.30m at its eastern terminal end, and 0.75m at its widest point. Where tested, it had steeply-sloping sides and a flattish base, a depth of at least 0.35m, and possibly contained up to three separate deposits, although the low sun lead to very difficult excavation conditions. The uppermost deposit comprises a mid reddish brown oxidised clay silt containing moderate charcoal flecks and sub-rounded stones to a depth of 0.25m, with a narrow band of pale yellowish brown sandy clay silt along the northern edge, and a mid yellowish brown sandy clay silt containing occasional charcoal flecks and small sub-rounded stones at the base. There were no artefacts noted in the deposits, and no sign of in-situ burning to suggest where the oxidised upper deposit may have been derived from. Feature 13.1 is of archaeological interest and warrants further investigation and resolution, should any development take part in this part of the Deer Paddock.

Photograph 20: Section through oxidisation in linear in Trench 13, looking west.

**Trench 14**

Length: 23m WNW-ESE  
Width: 1.65m  
Depth: 0.35m  
0.00-0.15m Dark yellowish brown silty clay topsoil, with a depth of up to 0.20m in places.  
0.15-0.25m Mid greyish brown silty clay containing occasional sub-rounded stones.  
0.25-0.35m Pale orangey brown sandy clay silt subsoil, containing occasional sub-angular limestone fragments and sub-rounded cobbles.

Aside from the linear feature F13.1 crossing T13 and terminating in T14, nothing of archaeological significance was noted.

**Trench 15**

Length: 43m WNW-ESE  
Width: 1.65m  
Depth: 0.31m  
0.00-0.15m Dark yellowish brown silty clay topsoil, with a depth of up to 0.20m in places.  
0.15-0.25m Mid greyish brown silty clay containing occasional sub-rounded stones.
0.25-0.31m Pale orangey brown sandy clay silt subsoil, containing occasional sub-angular limestone fragments and sub-rounded cobbles.

A single circular feature was noted towards the western end of the trench. It measured 0.97m in diameter, had a depth of 0.37m, and contained two fills. The uppermost deposit was friable mid greyish brown clay silt to a maximum depth of 0.15m, and the lower deposit was a mixture of mid greyish brown clay silt and pale orangey brown sandy clay silt. Both deposits contained occasional charcoal flecks and small fragments of red brick. This feature is modern in origin and possibly represents evidence of tree bowl clearance?

**Trench 16**

Located on the eastern end of the Deer Paddock, this trench was not excavated; so as not to impact on winter grazing for the deer herd.

**Trench 17**

– Not excavated

**Trench 18**

– Not excavated

**Trench 19**

– Not excavated

**Photograph 21:** Trench 20, looking northwest.

**Trench 20**

Length: 10m NW-SE

Width: 1.65m

Depth: 0.35m
0.00-0.15m Mid reddish brown well-rooted sandy silt topsoil containing occasional sub-angular and sub-rounded pebbles and fine gravel.

0.15-0.35m Pale orangey brown silty clay subsoil, containing occasional sub-angular limestone fragments and sub-rounded cobbles.

Features noted:

F20.1 Geophysics indicated the presence of a possible rectilinear anomaly in the vicinity, and Trench 20 was designed to intersect it. A single shallow V-shaped E-W orientated linear feature was noted, measuring 1.40m in width, and 0.30m in depth. This feature most likely represents a land drain.


Trench 21

Length: 10.30m NW-SE

Width: 1.65m

Depth: 0.29m

0.00-0.19m Mid reddish brown sandy silt topsoil.

0.19-0.29m Pale orangey brown silty clay subsoil, containing occasional sub-angular limestone fragments and sub-rounded cobbles.

An additional trench was excavated perpendicular to Trench 10 on its western side, in order to ascertain whether or not there were features related to a structure, as suggested by geophysics. No building remains were noted in T10 or T11, and T21 proved devoid also.

That said, three features relating to the horticultural activity were noted:

F21.1 NE-SW orientated irregular band of gravel and stones forming a 1.24m wide path with several distinct layers. The uppermost layer had some larger limestone fragments of up to 0.30m diameter.

F21.2 0.50m diameter circular feature with regular U-shaped profile, filled by a well-rooted dark greyish brown silty clay containing occasional sub-rounded stones.

F21.3 NE-SW orientated linear feature with shallow U-shaped profile measuring around 0.40m wide and 0.12m deep. It had a single deposit of dark greyish brown silty clay containing moderate small-medium sub-rounded stones.

The features in Trench 21 probably represent a pathway and horticultural plantings.
Discussion of Test Trenching Results

Testing revealed substantial, yet almost completely removed, greenhouse walls and floor surfaces in the area of the old Hothouse garden in Trench 2; as well as gravel pathways, possible vegetable beds, and drainage features. One surprising feature was a curvilinear anomaly F5.3 uncovered in the eastern arm of Trench 5, and found to be a 2.75m wide ditch with possible palisade fencing to one side. No dateable artefacts recovered from the small section through this feature, nor does it appear on historical mapping, suggesting that it pre-dates much of the formal garden activity, and is of pre-19th century date. It is unclear whether it represents a boundary feature or an enclosure, although documentary sources discussed in the Historic Designed Landscape Appraisal Report give mention of palisaded enclosures existing on the site from the early 17th Century.

In the Orchard, gravel paths and planting pits/beds were noted, as would be expected, with artefactual material dating mostly to the 18th and 19th centuries. Geophysics suggested the remains of a large rectangular E-W orientated building, but despite the insertion of an additional trench, T21, nothing of such nature was found. A short section of stone wall F10.7 and adjacent cobbles F10.8 were noted, but to the south of the location of the anomaly, and therefore most likely unconnected. Another potential rectangular structure on the geophysics in the northwestern corner of the plot was also not apparent in testing, with modern disturbance caused by the laying of a stone track and a water pipe, the likely candidates.

On the eastern side of the Long Avenue, the original makeup of multiple layers of cobbles and gravels was uncovered in Trench 11, with a fine kerbing of sub-rounded stone setts approximately 1m from the eastern side of the present track.

Features relating to the Long Walk include a gravel path F12.1 leading to the steps, and the remains of a stone wall F12.2 to the west of it. Although numerous stone blocks are visible along the western side of the raised walk, it is unclear from testing whether the wall followed the straight course of the walk from the north side of Mallow Castle House to the steps, or whether it formed part of the curving eastern boundary of the Orchard field. A curvilinear depression is still visible between the larger trees in the southeastern corner, roughly parallel with the extant iron rail fence.

In the western end of the Deer Park three trenches were inserted to test a multitude of confusing geophysical anomalies, most of which turned out to be geological fluctuations. One feature of note, however, F13.1, was a roughly E-W orientated linear containing a high concentration of oxidised soil and charcoal, suggesting the potential presence somewhere nearby of a semi-industrial or agricultural-related feature requiring the use of heat, such as smelting/forging or cereal drying. As
no artefactual material was noted within the fill of this feature, it likely pre-dates the 18th Century, and may relate to the earliest phases of castle building on the site, or potentially pre-date it.

8. Impact Assessment

The development of the Car Park in the former Production Garden will require the significant reduction of ground levels across the whole area, resulting in the removal of the subsurface remains relating to the former Greenhouse, and heavily impacting the curvilinear feature F5.3 identified in the southeastern quadrant. A photographic and GPS survey of the removal of the Greenhouse area would suffice as a record, but the SE Quadrant should be carefully stripped of topsoil to allow the curvilinear feature to be fully excavated and recorded, as well to identify any potential features contained within its enclosure that may relate to its construction and use. This will allow for the ongoing protection and management of any remaining portions outside of the area of impact, should it be revealed to have archaeological significance.

The Playground development will be of largely low-impact soft and semi-hard landscaping, with the exception of the masts for the proposed zipline. That said, there is nothing of major archaeological significance in the areas of proposed landscaping, and the mitigation here is for archaeological monitoring.

The locations of services throughout the proposed development areas have the potential to impact subsurface archaeological remains, and should be rerouted where possible impacts may occur. Otherwise, full archaeological excavation of the feature will be required. This refers mainly to the installation of drainage and electrical ducting, which will be of sufficient depth below present ground level to cause irreversible impact. The main areas of concern in this case, are the eastern side of the Long Avenue, and its associated stone kerbing, and the southern end of the Production Gardens, where it may impact features relating to the curvilinear feature F5.3.

Test trenching of the western area of the Deer Paddock uncovered a feature, which if left unmitigated may be directly impacted on by a new development of a Deer Management Facility in that location. Further testing and/or archaeological monitoring of topsoil stripping would help to identify the full location, nature and extent of the feature - F13.1 a roughly E-W orientated linear, and any other associated features prior to development.
9. Mitigation Recommendations

**General Mitigations**

It is recommended that all works, particularly groundworks be carried out under archaeological supervision; and the local authority should be aware of this and the implications that the management and resolution of archaeological matters will have throughout the execution of the proposed Part 8 works.

The supervising archaeologist shall be an integral part of the design and supervisory team for the execution of the works; and the appointed civil works contractor shall be required to work under the direction of the supervising archaeologist and the design team.

The civil works contractor appointed to the works must be made fully aware of the heritage significance of the site and the strategy required to safeguard it.

The works must be carried out to archaeological and general heritage best practice, with the approval of the Heritage Unit of Cork County Council and the National Monuments Service.

Given that the Mallow Castle Complex contains several known archaeological sites and monuments, including Mallow Castle House and its attendant grounds and curtilage, and the still registered but now gone ice house, all of which are in the ownership of Cork County Council, under current National Monuments Legislation the Consent of the Minister for Culture, Heritage and the Gaeltacht must be secured before works can commence, as the site is regarded as a National Monument. The mechanism to achieve this is through an application for a Variation to the existing Consent for the complex, Consent C000676. It is important to note that the Minister and the Minister’s representatives are the final arbiters of all decisions in relation to National Monuments.

**Specific Mitigations**

With regard to the proposed Car Park the following mitigation measures are recommended:

- The entire area of the proposed Car Park location will effectively be topsoil stripped and the levels altered. All proposed works will be carried out under archaeological supervision.

- The disturbed subsurface remains of the mid-19th Century greenhouse are to be exposed under archaeological monitoring conditions, and photographically recorded and GPS

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1 Note on Recommendations

All mitigation measures relating to works to an archaeological site or monument are recommendations only, and the decision on implementation, amendments, etc. rests ultimately with the Planning Authority - Cork County Council, the Development Applications Unit of the Department of Culture, Heritage and the Gaeltacht, and the National Museum of Ireland.
surveyed to produce a record, in advance of their removal. The record when combined with
the known historical record of the greenhouse – archival, cartographic and that created
through the Part 8 assessment process, is sufficient mitigation towards its removal. The
feature does not warrant preservation in situ.

- The curvilinear feature F5.3 uncovered at the southern end of the proposed Car Park area
  requires further investigation and archaeological excavation in advance of construction
  works. Given the proposed new works, services and changes in levels to accommodate the
car park, preservation in situ of the feature is not possible. The investigation and resolution
of the feature through full archaeological excavation should be carried out well in advance
construction works, to ensure full and accurate excavation and to avoid impact on the
construction programme. While preservation in situ would be preferred, the excavation of
the feature is a rare opportunity to investigate the potential early 17th Century garden and
landscaping features of the site.

With regard to the findings in the proposed Playground the following mitigation measures are
recommended:

- The proposed works to the Playground are low impact in nature, and should be
  archaeologically monitored. Features that are uncovered during monitoring should be
  recorded, covered in terram and preserved in situ where possible. This should be achievable
  by localised raising the ground beneath the proposed playground elements, thereby
  minimising impacts. Localised deep excavation may be necessary for elements such as post-
  pad foundations; which can be kept to a minimum.

- All services and drainage should be archaeologically monitored.

- The proposed drainage soakaway to the east of the roadway forming the Long Avenue
  should be moved if possible, to avoid impacting on earlier kerbing on eastern side.

With regard to the findings in the proposed works to the Upstanding Hothouse/Greenhouse the
following mitigation measures are recommended:

- All works proposed to consolidate the Upstanding Hothouse/Greenhouse should be carried
  out to conservation best practice as per the drawings and specification prepared by JCA
  Architects.

With regard to the findings in the western area of the Deer Paddock, further testing and/or
archaeological monitoring of topsoil stripping would help to identify the full location, nature and
extent of the feature - F13.1, and any other associated features prior to any new development here.
10. Sources, References & Guidelines Consulted

- *Record of Monuments and Places for County Cork*, 1998;
- National Monuments Database - [www.archaeology.ie](http://www.archaeology.ie);
- Database of Irish Excavation Reports – [www.excavations.ie](http://www.excavations.ie);
- *Archaeological Survey of Ireland - Post-Medieval Survey Records County Cork*;
- Ordnance Survey Historic Mapping;
- Placenames database - [https://www.logainm.ie](http://https://www.logainm.ie);
- Mallow Castle Papers Archive – Boole Library, University College Cork;
- Cork County Development Plan 2014
- National Inventory of Architectural Heritage (NIAH) – [www.buildingsofireland.ie](http://www.buildingsofireland.ie)


