Conservation of PULHAMITE ARTIFICIAL ROCKWORK Ramsgate, Kent

WINTERSTOKE GARDENS STAGE TWO REPORT

for

Ramsgate Heritage Action Zone (HAZ) Partnership

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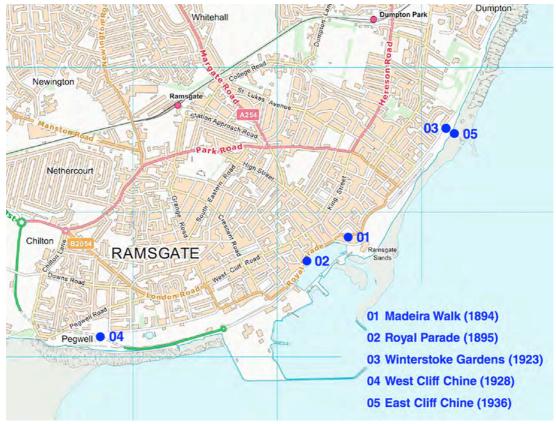
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1. INTRODUCTION



1.01: RAMSGATE'S PULHAMITE ARTIFICIAL ROCKWORK SITES IN CONTEXT (MAP BASED ON OS OPEN DATA)

1.1 Background

1.1.01 Launched in March 2017, the Ramsgate Heritage Action Zone ('HAZ') is a five year, government-funded project which aims to support the regeneration of Ramsgate by harnessing its historic environment as a catalyst for economic growth. Coupled with new investment and development, heritage-related programmes of engagement and conservation are seen as key to strengthening the local economy for the benefit of the community. A grant from the MHCLG Coastal Revival Fund enabled the HAZ Partnership — Thanet District Council ('TDC'), Historic England ('HE'), Ramsgate Town Council ('RTC'), Ramsgate Community Coastal Team (who in 2018 successful bid for the grant) and community representatives — to fund a survey of the Pulhamite Artificial Rockwork that is a unique part of the late 19th century and interwar heritage of the town. RTC acting on behalf of TDC (the accountable body) comissioned The Morton Partnership ('TMP') to undertake the survey with CHRISTOPHER GARRAND BSc BArch GraDipCons(AA) RIBA AABC IHBC, the author of this report, invited to lead due to his knowledge and understanding of PAR. IRENE SEIJO BA (Hons) MA Public Art & Design was also appointed by TMP, her role being to assess the landscape element of the rockwork, and advise on vegetation and planting. Structural engineering advice was provided by Ed Morton BEng (Hons) CEng FICE IHBC CARE Accredited.



1.02: MADEIRA WALK (1894)



1.03: ROYAL PARADE (1895)



1.04: WINTERSTOKE GARDENS (1923)



1.05: WEST CLIFF CHINE (1928)



1.06: EAST CLIFF CHINE (1936)



1.07: ELLINGTON PARK (1893)

- 1.1.02 There are five Pulhamite Artificial Rockwork ('PAR') sites in Ramsgate:
 - 01 Either side of Madeira Walk, a snaking road that rises from the Harbour to Wellington Crescent, the eastern part of a massive harbourside road improvement scheme of 1891–5; the PAR dates from 1894.
 - 02 Within the brick arches that rise above Royal Parade, the inclined middle tier of the western part of the harbourside road scheme; the PAR followed–on from that of Madeira Walk and was completed in 1895.
 - 03 Winterstoke Gardens at the northern end of Victoria Parade, opened in 1923.
 - 04 Dating from 1926–8, a winding roadway in a gorge (chine) down through the cliff at the western end of Royal Esplanade Gardens; the PAR dates from 1928.

05 A chine down from Winterstoke Gardens to the base of the (east) cliff promenade and beach below, opened in 1936.

All sites were in February 1988 statutorily listed Grade II and are within (or in one case next to) a designated conservation area. Madeira Walk is also part of the Grade II Registered Albion Place Gardens, first listed in July 1998.

1.1.03 Northwest of the Royal Harbour and Ramsgate town centre is Ellington Park, opened in 1893. A small formation of rockwork within the park has all the characteristics of near contemporary Pulhamite Artificial Rockwork, though its provenance as such is unproven; further research is needed. The site is not statutorily listed.

1.2 Purpose

1.2.01 The aim of the survey was to provide an assessment of the condition of Ramsgate's PAR, with a focus on defects that threaten its significance — defined in the National Planning Policy Framework ('NPPF') as its "value ... to this and future generations because of its heritage interest" — and the resultant need for conservation ("The process of maintaining and managing change to a heritage asset in a way that sustains and, where appropriate, enhances its significance"). Prioritised maintenance and repair strategies to be implemented 'as and when' by volunteers, conservators and local contractors were (subject to detailed survey) required. The outcome would also inform an overarching conservation management plan for the HAZ, and possibly the revision of the Historic England ('HE') guidance *Durability Guaranteed: Pulhamite rockwork — its conservation and repair*, published in 2008.

1.3 Brief

- 1.3.01 In terms of the resources available for the survey, the order of priority was:
 - (a) Madeira Walk.
 - (b) Winterstoke Gardens.
 - (c) East Cliff Chine.
 - (d) West Cliff Chine.
 - (e) Royal Parade.

Initially, Madeira Walk, Winterstoke Gardens and the East Cliff Chine were surveyed in detail, with the West Cliff Chine and Royal Parade deferred pending funding.

- 1.3.02 Fundamental to the survey is the notion of 'informed conservation', a philosophy which requires decision on intervention including maintenance and repair to be based on evidence and justified need, i.e. 'understanding'. Hence the staged, methodical approach advocated in *Durability Guaranteed*, the basis of the brief:
 - A Drawing on a review of existing literature including: a survey report on the Madeira Walk PAR prepared in 2000 by Simon Swann (1956–2018); a 1992 study of Royal Parade prepared by Donald W. Insall and Associates; and primary

and secondary historic research — investigate and survey in outline the five sites culminating in Stage One (overview) reports on PAR generally, Royal Parade and the West Cliff Chine.

- B Revisit and update the 2000 Madeira Walk survey and where necessary and appropriate its scope and format in light of subsequent work by Simon Swann and others on the conservation of Pulhamite Artificial Rockwork.
- C Using the Madeira Walk methodology and format (as perhaps modified), survey in similar detail the PAR of Winterstoke Gardens and the East Cliff Chine.
- D Bring together the outcome of each of the detailed surveys into a (Stage Two) report on the condition of the PAR and conservation issues to be addressed along with prioritised schedules of works; the latter to be clearly referenced to marked–up plans and photographic records that enable the location and nature of repairs (including site–specific constraints) to be easily identified.
- E Following–on from the survey and schedules, produce cross–referenced generic specifications that describe the necessary types of repair, and the parameters under which they are to be executed.
- F Provide general and specific guidance on the maintenance and management of PAR including vegetation control, and the removal of graffiti and other soiling.
- G If required, help arrange for the collection and analysis of further samples, and the execution of trial repairs (exemplars) to guide future repair.
- H Assist where possible in developing and supporting the training of volunteers (including as part of the survey), local contractors and others in the conservation of Pulhamite Artificial Rockwork.

Specialist advice on landscape and ecology was an integral part of the survey, as was collaboration with Ramsgate Town Council, HE and other interested parties.

1.3.03 Following-on from the review and update of the Madeira Walk survey of 2000, this (detailed) Stage Two report on the Winterstoke Gardens PAR is the outcome of paragraphs 1.3.02 C to F and — in terms of volunteers — part of H. It provides a record and assessment of the rockwork as of the dates of survey (refer 5.1.02) along with prioritised guidance on maintenance and repair, a 'baseline' for the ongoing management of the Grade II listed Winterstoke Gardens PAR.

1.4 Methodology

BASIS

1.4.01 Adapting the approach employed by Simon Swann for the 2000 Madeira Walk survey, the rockwork of Winterstoke Gardens was first divided into small, manageable survey zones (refer 5.1.02), each with a unique identifier referenced on a key drawing based on a topographical survey prepared in June 2019 (revised August 2019) by James Brennan Associates. Demarcation of zones as far as possible made use of fissures, setbacks and other distinctive features that form logical breaks in the PAR.

PREPARATION

- 1.4.02 Using the categories of deterioration set out in Section 7 of the Overview: Stage One Report (soiling and discoloration; erosion and loss of coatings; defects in backings; cracks and fractures; previous repairs) which are a development of those used by Simon Swann in 2000 a proforma survey sheet was designed, an example of which is provided as Appendix A.
- 1.4.03 A set of elevational 'base' photos (non-rectified) was also prepared, one image per zone. Each was selected on the basis of its coverage with in some cases a suitable image created by 'merging' two or more separate images using Adobe Photoshop. In order to be usable on site (for marking-up), shadows were removed or lessened, titles added and the (A3) photo sheets turned to greyscale (monochrome). An example is provided as part of Appendix B.

SURVEY



1.08 & 1.09: SURVEYING THE WINTERSTOKE GARDENS PAR (AUGUST 2019)

- 1.4.04 Over a period of six days (refer 5.1.02 for dates), each survey zone was, subject to the qualifications and limitations set out in 1.6.01, carefully inspected. Deterioration and damage was recorded on a zone–specific survey sheet and base photo, along with a detailed photographic record (digital photos are typically 6,000 x 4,000 pixels resolution). The latter included general as well as close–up shots with large, pre–printed labels used to relate images to survey zones. Inspections were primarily visual albeit metal tools lightly dragged across surfaces were used to test for hollowness, while cracks and fractures were probed (gauged) and in some instances measured. As a visual marker and to aid recording, each zone was delineated with red–and–white hazard tape held in place by metal pegs. An example of a marked–up base photo is also provided as part of Appendix B.
- 1.4.05 Fully briefed volunteers up to three at a time provided assistance throughout the survey, including fielding questions from the general public, with many copies of a

leaflet explaining the survey handed out. All those involved showed considerable interest in PAR and a willingness to learn about its history and conservation.

POST SURVEY

1.4.06 Survey sheets were collated and photographs batch re-named and sorted on a daily basis, the former then (in the office) being analysed and transferred to a 'report' version of the proforma; photos were further edited and organised into zone-referenced and numbered sets. The survey sheets form the basis of this report, to which end a full digital (PDF) set is provided separately, along a copy of the related photo archive of nearly 3,000 images in high resolution jpeg format. The key drawings which locate the survey sheets and photos are provided as Appendix C.

RESEARCH

1.4.07 HE provided the most recent listing reports for Winterstoke Gardens (updated in 2019 and 2020 as part of the HAZ programme) as well as images and catalogue entries from the Historic England Archive. Internet searches resulted in a large number of additional historic images, the most fruitful sources being specialist dealers and the Thanet Online website maintained by the owner of Michael's Bookshop in Ramsgate, whose self–published collections of old postcards provided an even wider range of material. Use of the British Newspaper Archive website to explore back copies of *The Thanet Advertiser* (from 1930–44 the *Advertiser and Echo*) pinpointed articles relevant to the history and development of Winterstoke Gardens.

1.5 Structure and content

- 1.5.01 Following this Introduction:
 - **Form and fabric** (Section 2) describes the PAR in terms of its location and setting, design, materials and construction.
 - **Planting** (Section 3) comprises a brief overview of how the PAR was at the time of the survey planted.
 - **History and significance** (Section 4) outlines the origins and development of Winterstoke Gardens and identifies the significance of its PAR.
 - **Condition** (Section 5) presents and discusses the condition of the PAR as recorded on the survey sheets, and identifies any need for works.
 - Maintenance and repair plan (Section 6) provides a practical strategy for the ongoing conservation of the Winterstoke Gardens PAR. Covering inspection, routine and reactive maintenance, it ends with a prioritised schedule of repairs with reference to Outline Repair Specifications (Appendix D), with introductory notes on: procurement; health and safety; the implications of designation (listing and conservation area location) and records.

The report ends with **Bibliography** (Section 7) and a series of **Appendices** (A to E as referred to within the text of the report).

1.6 Qualifications and limitations

- 1.6.01 THIS REPORT MUST BE READ IN CONJUNCTION WITH OVERVIEW: STAGE ONE REPORT, IN WHICH CAN BE FOUND IN-DEPTH INFORMATION ON THE NATURE, HISTORY, DESIGN, MATERIALS AND CONSTRUCTION, AND PLANTING OF PULHAMITE ARTIFICIAL ROCKWORK (PAR) ALONG WITH DETAILED BACKGROUND INFORMATION ON ITS DETERIORATION AND AN OVERARCHING APPROACH TO ITS CONSERVATION.
- 1.6.02 The following limitations also apply:
 - The survey was conducted from ground level only with no use of ladders or other aids to reach areas at height, the majority of the PAR being readily accessible from above and below as well as on the tallest zones via scaling the terraces and platforms of the rockwork itself.
 - No inspection could be made of any area of PAR obscured by vegetation, albeit extensive clearance between the first and second phases of survey necessitated an element of review as noted in 5.1.02.
 - The sun shelter, fixed seating, fountains, pools, steps, paving and other structures are excluded; other than where they directly impact on the PAR.
 - Ecological considerations (including disturbance of protected wildlife) are as the March 2019 Scoping Survey Report prepared by Kent Wildlife Trust.

Planting and vegetation are only considered where of direct relevance to the condition of the PAR. WHERE NECESSARY, REFERENCE SHOULD BE MADE TO THE SEPARATE REPORT, SUPPORTING INFORMATION AND GUIDANCE ON PLANTING (MAINTENANCE AND MANAGEMENT) PREPARED BY IRENE SEIJO.

2. FORM & FABRIC



2.01: WINTERSTOKE GARDENS PAR VIEWED FROM ABOVE (TOP OF SUN SHELTER)

2.1 Location and setting

- 2.1.01 Winterstoke Gardens is a small public park approximately 1.0 kilometre northeast of the Royal Harbour (Figure 1.01). Sandwiched between the end of Victoria Parade and the Grade II listed East Cliff Chine, it occupies the northernmost tip of the Ramsgate Conservation Area, terminating the clifftop promenade that stretches east from near the top of Madeira Walk. A flint wall separates the Gardens from the King George VI Memorial Park and the edge of Broadstairs (Dumpton). Northwest and overlooking is a group of six detached houses of various dates and styles (and one empty plot), behind which is the suburban Winterstoke Crescent. A short distance southwest is East Court, a Grade II* listed house with adjacent Grade II stables.
- 2.1.02 The geometry of the Gardens (and Winterstoke Crescent, which is part of the same conception) is set out from the centre of a circular pool (dry) with fountain (not working). A curved terrace a segment of a larger circle on the seaward side forms the roof of a sunken un shelter of neoclassical design, flanked by pylons supporting concrete jardinières. Landward, a bench and raised kerbs reflect the arc of the terrace with paths radiating out. The Gardens are virtually flat (there is a 1:100 southwest–northeast rise), the top of the cliff having been excavated to accommodate the shelter and the promenade. The PAR masks the cut–back chalk, framing the architecture of the sun shelter before returning and fanning out along the cliff, the rockwork following the bowed line of the drop below.

2.1.03 A detached area of rockwork and a concrete bench lie roughly in the middle of the northern part of the Gardens; both are part of the Grade II listing of the sun shelter and PAR. To the south is another fountain (not working) with a pentagonal pool (filled) that is — along with the circular pool and bench — also a part of the listing; likewise paths and the paving in front of the shelter which, as "part of the land" and dating from before 1st July 1948 are 'curtilage' structures. Between the Gardens and the cliff is a later sun–shelter of traditional design, and immediately southwest the top of the East Cliff Chine; metal railings guard the edge of the cliff. Views out from the Garden are open and expansive, though a subtle north–south axial view that is part of the design is lessened by vegetation, the empty pools and absence of working fountains.



2.02: THE FLAT, GRASSY PLAIN



2.03: CIRCULAR POOL WITH FOUNTAIN



2.04: THE SUN SHELTER (POOL ABOVE)



2.05: FOUNTAIN + PENTAGONAL POOL

2.2 Design

2.2.01 The relatively simple PAR of Winterstoke Gardens stretches some 250 metres along the top of the clifftop promenade, rising from close to ground level up to around 4.5 metres at the sun shelter before dropping back down, its principal face subtly curved to follow the line of the cliff. Naturalistic and craggy, the two stretches of rockwork (120± meters south of the sun shelter and 105± north) are in marked contrast to the overall formality of the Garden, albeit the mirroring of the upward tilt (dip slope) either side of the sun shelter — with coloured beds of varying thickness riding–up over each other and rising towards the centre — lends the PAR an air of symmetry. The isolated outcrop of rockwork towards the northern end is a low, one–sided affair — the axial counterpoint of the pentagonal pool and fountain (refer 2.1.03).



2.06: THE ROCKWORK OF WINTERSTOKE GARDENS (RIGHT) STRETCHING ALONG THE CLIFFTOP PROMENADE



2.07: NATURALISTIC & CRAGGY ROCKFACE



2.08: UPWARD TILT (DIP) OF STRATA



2.09: BEDS (STRATA) OF VARYING THICKNESS & COLOUR



2.10: ISOLATED OUTCROP OF PAR (ON AXIS OF POOL AND FOUNTAIN)

2.2.02 Although the top of the rockwork (it's 'skyline') is essentially level, interest is provided by the extensive use of setbacks, fissures, clefts, boulders and overhangs. Likewise the incorporation of a generous quantity of plant pockets, albeit those that form the top bed are in essence dwarf retaining walls that contain the planted edge of the Garden. Wide (7.0± metre) flights of steps up from the promenade to the Garden break each run of PAR, the rockwork either side returning in rough quarter–circles terminated by large, square planters that in their design reflect the pylons of the sun shelter. Low formations of PAR also return so as to delimit the termination of the Garden, that at the southern end incorporating a short flight of steps.



2.11: SETBACK, CLEFTS & BOULDERS



2.13: STEPS UP FROM PROMENADE TO GARDEN & SQUARE PLANTER



2.12: PLANT POCKET (DETACHED STONE)



2.14: LOW FORMATION OF PAR & STEPS MARK THE END OF THE GARDEN

2.3 Materials and construction

2.3.01 In terms of materials and construction, the Winterstoke Gardens rockwork is typical of the work of James Pulham & Son as promoted by their brochure *Picturesque Ferneries and Rock–Garden Scenery* (Pulham, 1877). Despite its execution over 60 years later, it exhibits many of the characteristics described in Section 4 of the Overview: Stage One Report. Backings are of rough concrete and brick with stone slab overhangs. Flints are packed into fissures, though not as extensively as the Ramsgate PAR generally. Reduced ground levels reveal the structure of the isolated outcrop. The composition of the coatings is unknown though a range of aggregates and the use of pigments is evident. Decay mechanisms (sulfate attack) suggest a true Portland cement binder; sampling and analysis is needed to confirm.



2.15: CONCRETE EXPOSED BY EROSION



2.16: BRICKS AT BASE OF PLANT POCKET



2.17: EROSION EXPOSES BRICKWORK



2.18: STONE SLAB OVERHANG



2.20 VEINS SUGGEST SULFATE ATTACK



2.19: EXPOSED STRUCTURE OF OUTCROP

3. PLANTING



3.01: TYPICAL PLANTING OF ROCKWORK ALONGSIDE PROMENADE

3.1.01 The planters beside the steps contain *Cordylines, Phormiums* and *Yuccas.* On the lower levels of the rockwork are some old *Ruscus, Crataegus* and common ivy. Plant pockets hold small shrubs such as *Hebes, Euonymus* and subshrubs such as *Santolinas, Senecio maritima* as well as herbaceous plants and some half hardy annuals, i.e. begonias and African marigolds. *Valeriana officinalis, Iris foetidissima, Senecios, Fuchsias* and common red poppy are abundant, the planters by the southern steps also contain *Valeriana.* Self–sown sycamore seedlings, *Fraxinus sp* and *Sambucus* are also present.



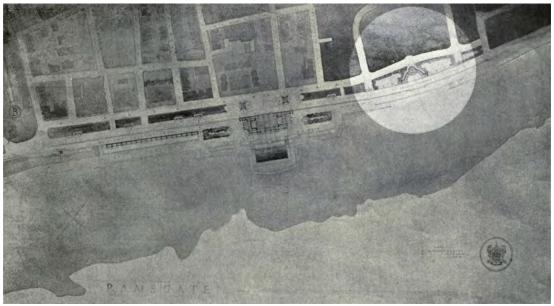
3.02: COMMON RED POPPY, SENECIO MARITIMA & FUCHSIAS



3.03: VALERIANA OFFICINALIS IN PLANTER ADJACENT STEPS

4. HISTORY & SIGNIFICANCE

4.1.01 Janet Stancomb–Wills (1854–1932) was the adopted daughter of her uncle, William Henry Wills, 1st Baron Winterstoke (1830–1911) who in 1889–90 had built the seaside villa East Court (refer 2.1.01). Having inherited the house, Dame Janet — as she was from 1918 — settled in Ramsgate, becoming in 1913 a Borough Councillor and between 1923 and 1924 serving as Mayor. Noted for her generosity in funding public works and services, she did in the early 1920s commission the preparation of a masterplan for seafront improvements along the east and (part of) the west cliffs. The scheme was prepared by Sir John James Burnet (1857–1938), a highly regarded architect with notable works in London and Scotland, and whose later career would see the realisation of landmark project such as the Daily Telegraph building on Fleet Street (1925) and the Sydney Harbour Bridge (1929). Despite being exhibited at the Royal Academy (Martin–Kaye, 1922), the plans proved to be too costly for the Council and went unrealised, save that Dame Janet decided to fund at her expense the creation of Winterstoke Gardens.



4.01: BURNETT MASTERPLAN FOR EAST CLIFF (WINTERSTOKE GARDENS HIGHLIGHTED)

4.1.02 According to report on *The Thanet Advertiser & Echo* of 3rd December, work on the Gardens commenced at the end of November 1921. Fifteen men were recorded as already working on the project, it being "anticipated that fifty or more will be required to complete the improvement" (one of the driving forces behind the project was to create work for local labour). It is said that the project was also conceived as a 'sensory' garden for the benefit of WW1 veterans, though no evidence has been found to support this assertion. Burnet's plan for the project was on view in the magazine room of the Public Library and the contractor in charge of the works as a whole — not just the rockwork — was James Pulham & Son. The cost of the project is unknown, though in a report on the death of Dame Janet (*The Thanet Advertiser & Echo* of 23rd August 1932) it was stated that the works cost "over £10,000"; and in the case of a girl who was brought before Ramsgate's Children's Court in September 1923 for

scratching her name on a seat, the Town Clerk stated that the Gardens "had cost a considerable sum of money, upwards of £15,000" (reported on the 15th — the case was dismissed following a promise not to do it again).



4.02: AIR PHOTO OF WINTERSTOKE GARDENS 1931 (EXTRACT BFA ref. EPW035447)

4.1.03 The Gardens were opened on 15th June 1923 (reported on the 16th) with Dame Janet and Burnet both in attendance, the latter called upon to explain "the works carried out in forming the gardens"; a brochure was also circulated. Attention was drawn to the work of the sculptor Gilbert Bayes (1872–1953): a ram with children in the sun shelter and coat of arms above; also that Pulham & Son had advised on tree planting. Named after her uncle, Dame Janet gifted the Gardens to the town with the Mayor offering reassurance that they would "be well cared for by our Parks and Recreation Committee" and hoping it be "considered a duty by all who use the gardens to see that good order is kept and that no damage is done to this beauty spot."



4.03: LOOKING SOUTHWEST ACROSS SUN SHELTER (BEFORE 1935; PC DATED 1948)



4.04: VIEW NORTHEAST OF SUN SHELTER (POSTCARD DATED 1929)



4.05: BIRD'S–EYE VIEW POSTCARD OF WINTERSTOKE GARDENS LOOKING SOUTHWEST BEFORE 1935 (NO POST MARK)



4.06: LOOKING SOUTHWEST ALONG EAST CLIFF BEFORE 1935 (COMPARE 4.08)



4.07: POOL, FOUNTAIN & SEAT BEFORE 1931 (NO HOUSES ON WINTERSTOKE CRESCENT)

4.1.04 An Inspection of historic photos and postcards reveals that while the PAR does not appear to have changed since its construction, the Gardens have suffered a number of losses including: trees, hedges, herbaceous borders, railings and gates along Victoria Parade; a second concrete bench, mirroring that noted in 2.1.03; low metal fences in front of the rockwork on the promenade; glazed screens from the sun shelter; and the ram sculpture. However, the basic layout (geometry) of the garden and its 'hard' elements are essentially intact, and hence continues to provide the PAR with an historic context. This is notwithstanding radical changes to its setting as a result of development on Victoria Parade and in 1935–6 the construction of the undercliff promenade: scarping back the chalk so as to move the cliff closer to the PAR; erection of the shelter (refer 2.1.03); and the building of the East Cliff Chine.



4.08: LOOKING SOUTHWEST ALONG EAST CLIFF AFTER 1936 (COMPARE 4.06)



4.09: POOL, PYLONS & JARDINIÈRES (LOOKING SOUTHWEST BEFORE 1935)



4.10: AIR PHOTO OF WINTERSTOKE GARDENS 1947 SHOWING EAST CLIFF CHINE — COMPARE LINE OF CLIFF WITH 4.02 (EXTRACT BFA ref. EAW009013)

SIGNIFICANCE

4.1.05 The rockwork of Winterstoke Gardens is an integral part of a sophisticated yet subtly geometric and somewhat art deco design for a clifftop public garden, the work of a major architect (Sir John James Burnett) made possibly by the generosity of a wealthy individual of national repute (Dame Janet Stancomb–Wills). Its architectural and historic interest is reinforced by the picturesque and dramatic way it rises and to frame the sun shelter, and — in terms of the work of James Pulham & Son — the way its design and execution reflects the ideas set out in *Picturesque Ferneries and Rock Garden Scenery*. The Winterstoke rockeries also contribute to the special interest of the Ramsgate Conservation Area, and are a part of Ramsgate's nationally important group of related PAR structures, a record of the Pulham rock–building business over its last 42 years.

5. CONDITION

5.1 Introduction

- 5.1.01 Set out in this section is a detailed summary of the condition of the PAR of Winterstoke Gardens as recorded in 2019, noting the limitations on access (refer 1.6.02). Its arrangement reflects the sequential description of deterioration used in Section 7 of the Overview: Stage One Report (which must be read in conjunction):
 - Soiling and discolouration.
 - Erosion and loss of coatings.
 - Defects in backings.
 - Cracks and fractures.
 - Previous repairs.

Presented and discussed under each of these headings is what was observed, along with an assessment of the need for maintenance and repair. A concluding summary precedes the Works Plan set out in Section 6. REFERENCE SHOULD ALSO BE MADE TO THE REPORT, SUPPORTING INFORMATION AND GUIDANCE ON PLANTING (MAINTENANCE AND MANAGEMENT) PREPARED BY IRENE SEIJO, LANDSCAPE ARCHITECT.

- 5.1.02 Where attention needs to be drawn to specific locations, observation and discussion refer to the survey zones (key plans are provided as Appendix C). As noted in 1.4.06, a full set of survey sheets and related photo archive sorted and labelled in terms of zone references is provided separately in digital format. Surveys were carried out on: 27th August (zones A01 to A16); 28th August (B01 to B09); 29th August (B10 to B20); 30th August (C01 to C21); 2nd September (D01 to D08); and 5th December (D09 to D14 and E01 to E04). Following the clearance of vegetation, number of zones were in addition reviewed on 5th December: B01 & B02; B09; B11 to B13; C07; C09; C11 to C19; D01 to D03; and D05 to D07.
- 5.1.03 Underpinning the survey (refer 1.3.02) and therefore all advice on the maintenance and repair of the Winterstoke Gardens PAR is the PHILOSOPHY of 'informed conservation', the basis of which is understanding and justified need. This leads to a 'minimalist' way of thinking which aims to make the best use of resources, accepting things 'as found' and that in the context of the rockwork it is neither desirable or realistic to make good all instances of deterioration, i.e. the 'patina of age' is integral to special interest and no attempt should be made to present the PAR 'as new'. The aim is to preserve (and perhaps enhance) significance in the face of loss or damage due to lack of maintenance or want of repair, while avoiding needless renewal or restoration. It presumes that as much of the existing rockwork as possible (backing and coatings) should be retained, other than where removal is necessary to mitigate a threat to significance. Hence the reason why in many cases it is acceptable to 'leave alone' and simply maintain rather than attempt repair.

5.2 Soiling and discoloration

OBSERVATIONS

- 5.2.01 Notwithstanding some fading (loss) of colour due to surface erosion the norm for Ramsgate's collection of PAR, especially in an exposed sea–facing location the rockwork of Winterstoke Gardens is only lightly soiled:
 - **Lichen** coverage was extensive, especially on surfaces exposed to wind and rain; less so in sheltered areas where efflorescence and sulfates are present.
 - **Moss** was in a few instances present (A12A, A12B, B01, B18, B20. D07, D11, D12 & D13), the build–up on the rockwork of D12 being especially heavy.
 - **Airborne dirt** was almost universally present where lichens are absent, albeit soiling is in the main light to imperceptible.
 - Surface efflorescence beneath overhangs and in other sheltered areas was observed generally, and in some a instances had converted to a sulfate crust albeit — due to an historic lack of airborne pollution — these are generally white only tending sometimes to a light grey.
 - Biological deposits in the form of concentrations of dog urine were present at corner locations, specifically those of the large square planters (A16, B01, C21 & D01) though other instances were also recorded (C06A, C06B & C19). Bird fouling was rare and minor.
 - **Graffiti** was light and mainly comprised chalk, though spray paint was in three isolated cases (C01, C11 & C13) notably present and in three more visible but faded (B01, C18 & C21).

No metal staining was visible on any of the PAR formations, albeit rare instances of small ferrous inclusions in the render coating were noted.



5.01: TYPICAL LICHEN GROWTH



5.02: BUILD-UP OF MOSS (D12)



5.03: AIRBORNE DIRT- NO LICHENS (B19)



5.04: SURFACE EFFLORESCENCE (C11)



5.05: REPEATED DOG URINATION (C06B)

DISCUSSION



5.06: GRAFFITI - SPRAY PAINT (C11)

- 5.2.02 Instances of mosses notwithstanding; lichens and the relative lack of airborne dirt are indicative of the good condition of the PAR coating generally, the result of it being remoted from busy roads and historically polluted urban areas, along with a high degree of exposure to driving rain. i.e. rain washing.
- 5.2.03 Conversely, efflorescence and sulfate crusts (due to chemical action) are always associated with the undersides of overhangs and other sheltered areas where salts from the sea air and to an extent the chalk behind the PAR are not readily washed away; while the crusts (which are almost certainly 'cross–liked' with the render coating and hence hard to remove) may eventually play a role in surface erosion (refer 5.3.03), the white blooms and crystals are in the main benign and should be accepted as part of the historic aging of the rockwork. Urine is also a source of salts with the observed concentrations having caused permanent staining and now

threatening surface damage, notwithstanding the smell and possible heath implications; control needs to be considered.

5.2.04 The relative absence of graffiti is perhaps due to the smooth walls of the Sun Shelter offering a more appealing canvas, noting that even the three most notable examples are not offensive or visually intrusive; and given that graffiti removal (refer D3.08 of Appendix D) can itself be highly damaging are best left to fade. Likewise chalk which if rubbed too early can permanently stain and will eventually wash away, albeit light sponging may be employed in sheltered areas.

NEED FOR MAINTENANCE & REPAIR (CLEANING)

- 5.2.05 Soiling and discolouration of the Winterstoke Gardens rockwork is a minor issue and there is no pressing need for cleaning, notwithstanding graffiti control being an essential part of routine maintenance (refer 6.3.06 & 6.3.07). Nonetheless, mosses indicate damp and hence should be removed to enable the condition of the rockwork below to be examined.
- 5.2.06 Preventing dogs from urinating on the PAR is a difficult matter, one that can probably only be controlled via a programme of public information and education, albeit the possibility of repellents could be explored. Long term, reinstatement of the low metal fences in front of the rockwork (refer 4.1.04) would in part alleviate the problem.

5.3 Erosion and loss of coatings

OBSERVATIONS

- 5.3.01 Despite widespread and fairly evenly distributed isolated areas of pitting or minor loss (often with the backing grinning through), the coatings of the Winterstoke Gardens PAR are generally in good condition:
 - Fading and light erosion is extensive, albeit tinted coatings are still relatively vivid, depending on the light and especially where zones B and C rise towards the sun shelter. There are instances of surfaces that are more deeply eroded than the norm (e.g. A02, A05, A06A, C12 & E02A). Patches of light granulation are sometimes present beneath overhangs.
 - Areas of more intensive pitting mixed with hollowness and granulation leading to small areas of surface loss were noted (B03, B05, B13A, B14, C08, C16 & D03B) with total loss exposing the concrete backing in zones B02A, D02 and D03A
 - Blistering and surface loss to the undersides and leading edges of stone-slab overhangs is extensive; almost all cantilevered plant pockets are affected.
 - Hollowness and surface loss adjacent fractures are also evident (e.g. A14A).

Soil slippage and reduced ground levels have in places (A05, A06A, B03, B11, B14, B20 and — especially — E03 & E04) resulted in 'skirting' (refer 7.3.06 of the Overview: Stage One Report) and the exposure of the backing, which in some cases is the natural chalk.



5.07: LIGHT EROSION & MINOR LOSS (C12)



5.09: UNDERSIDE LOSS OF COATING (B13B)

DISCUSSION



5.08: PITTING & GRANULATION (B05)



5.10: SURFACE LOSS & FRACTURE (C06A)

- 5.3.02 The degree to which the rockwork has faded and been eroded is consistent with its exposed, clifftop environment and nearly a century of weathering. Likewise minor pitting and loss, often where coatings were laid–on thin ('skimmed', e.g. A04B) or where vulnerable arises have been chipped. Only in a few cases have edges been exposed so as to potentially increase wetting and hence decay: A04B, A12B, B07, B08, B20, C01, C05, C06A, C14, C21, D08 & E02C. The losses in zones B08 & C05 are good examples of impact: the former most likely having been hit by a turning vehicle; the latter possibly by people climbing the rockwork. In neither case was there any evidence of subsequent loss of surface. In other areas, e.g. A02A the exposed edges of the coating are now weathered–in and unlikely to deteriorate further.
- 5.3.03 As with surface effloresce and sulfate crusts (refer 5.2.03), the observed instances of more widespread pitting, hollowness, granulation and surface loss (B02A, B03, B05,

B13A, B14, C08, C16, D02, D03A & D03B) are in the main beneath overhangs and in sheltered areas, and where the build–up of salts has reached the point where the render coating has been weakened by chemical action (refer 7.3.03/05 of the Overview: Stage One Report). Orientation is also a factor. All of the most seriously decayed (or lost) areas of surface face southwest and hence are directly exposed to the prevailing wind which — coming in off the sea and nearby beaches — will be laden with high levels of salt (sea spray) and fine grains of sand. Salt levels and abrasion will therefore be intensified making detached or friable surfaces more prone to deep erosion and loss. Hence the 'preferential' weathering of sheltered areas or southwest facing coating. The influence of orientation is also evident on some more exposed areas of PAR (e.g. A02, A05, A06A, C12 & E02A), where — as already noted in 5.3.01 — scouring (erosion) is deeper than the norm.





5.11: LOSS OF SURFACE LEAVING COATING & BACKING VULNERABLE TO WATER (C01)

5.12: LOSS OF COATING DUE TO SALTS & PREFERENTIAL WEATHERING (D02)

- 5.3.04 Salts will also have exacerbated the loss of surface from the undersides of overhangs, albeit decay is less prevalent in the top tier of plant pockets which being 'one-sided' and hence part of the ground have more capacity to carry water away from the vulnerable stone cantilevers (refer 7.3.05 of the Overview: Stage One Report). Given the close proximity of a large mass of chalk and hence calcium carbonate, white crystalline veins that align with mortar joints in brick backings (especially the lowest bed joint where the brickwork rests on the stone slab) are most probably the mineral thaumasite, indicating the use of modern OPC; the expanding crystals will eventually result in cracking (refer also 5.5.03) and detachment.
- 5.3.05 Frost action will also be a factor in underside loss; also the detachment of render adjacent fractures, albeit differential movement or settlement (of detached and dislodged portions of rockwork) might in such cases be a contributory factor (refer 5.5.01, third bullet point).





5.13: SCOURING DUE TO ORIENTATION (A05) 5.14: CRYSTALLINE (SULFATE) VIENS (B12)

NEED FOR MAINTENANCE & REPAIR

- 5.3.06 The general pitting and loss of rendered surfaces is a minor issue that warrants no more than regular inspection (refer 6.3.02 to 6.3.05), save perhaps work to mitigate the vulnerability of exposed edges and backings as discussed in 5.3.02. Dressing (careful trimming) the render to remove loose material and water traps would, where appropriate, be a practical short-term option. Beyond which, the skilfully-matched restoration of missing areas of coating would be the preferred method of repair.
- 5.3.07 Renewal and restoration of the hollowed, granulated and lost areas of surface as considered in 5.3.04 is also a possibility. However, as the high exposure to salts and southwest orientation key agents of decay cannot be changed, the deterioration would in time be repeated unless a sulfate-resisting cement were used for the new coasting; which raises issues over the authenticity of historic fabric, although any decision on repair must stem from further investigation (D1.01 of Appendix D). In which context it would be prudent to continue to monitor and in line with the philosophy set out in 5.1.03 accept localised surface loss as part of the historic 'weathering' of the PAR, subject to review as part of the next quinquennial (five-yearly) survey update.
- 5.3.08 Underside loss does not visually detract from the Winterstoke Gardens rockwork as a whole and is best accepted, given the inherent difficulty in ensuring that render coatings adhere to the edges and soffits of the stone slabs. However:
 - Veins of sulfate attack (refer 5.3.04) should be monitored as part of the inspection regime outlined in 6.3.03.
 - Hollowed or lost surfaces adjacent fractures should be repaired in conjunction with fracture repair (refer 5.5.04): sound surfaces can be consolidated with lost areas repaired to match the original.

Managing soil slippage is a routine maintenance activity, and ground levels can be regraded to alleviate 'skirting'. The slope behind the detached outcrop of PAR (E03 & E04) can perhaps be reinstated as part of a future landscape restoration.

5.4 Defects in backings

5.4.01 A few instances of impact damage to backings (that also affect coatings — refer 5.3.02) were observed: A12B, B01, B08, B20, C05 and D08. The decay (powdering and delamination) of stone slab overhangs was also generally evident, most notably in zones B05, C09, C10, C12, C16, C18 to 20, D02, D03A, D05 and D06. Making good impact damage will by necessity be a precursor to the repair of the vulnerable areas as noted in 5.3.06. As in the case of coatings (refer 5.3.08), underside decay of stonework is best accepted, though ongoing loss should be monitored and if necessary pinning or consolidation might be considered. Defects in backings as a result of fracture and displacement are covered by 5.5.01 to 5.5.04 below.



5.15: DAMAGE TO COATING & BACKING DUE TO VEHICULAR IMPACT (B08)



5.16: DELAMINATION TO UNDERSIDE OF STONE SLAB OVERHANG (B05)

5.5 Cracks and fractures

OBSERVATIONS

- 5.5.01 Fine surface cracking is almost universally present, sometimes manifest as isolated occurrences but generally evident as crazing; most of the cracking is weathered and overlain with lichens of dirt. Although less extensive, fractures (cracks that penetrate backings refer 7.5.03 of the Overview: Stage One Report) were present across much of the rockwork, though with a greater concentration (about 70%) in the central sections framing the sun shelter:
 - Significant hairline fractures up 1–3 mm in width were present in zones: A13 (2 no), A14A (6 no), A15 (2 no), A16 (2 no), B01, B02A, B04, B05 (2 no), B07,

B08 (2 no), B10, B11, B12 (2 no), B13A (2 no), B15 (2 no), B18, B19, B20 (2 no), C01 to C03 (2 no), C05, C06A & B (2 no), C09, C10, C13, C18 (2 no), C21, D01, D02, D08, D10, E02C and E03 (2 no). Some 60% (33) of these fractures were vertical or near vertical, with the remaining 40% (22) horizontal.

- Major fractures mainly vertical or near vertical but with associated diagonal and horizontal components — were present in zones: A10, A14A, B07 to B13A, B14 to B16, B18 to B20, C01 to C04, C06A, C07, C13, C14, C18 to C21, D01, D05, E02C, E03 and E04.
- Wholesale displacement involving fractures was present in zones: A08, A10, A13, B10, C01, C07 and D02.

No fractures had led to the collapse any rockwork or the total loss of features such as plant pockets and overhangs.



5.17: FINE SURFACE CRACKING (A16)



5.18: HAIRLINE FRACTURE (A14A)



5.19: MAJOR FRACTURE (C06A)



5.20: FRACTURE & DISPLACEMENT (A10)

DISCUSSION

- 5.5.02 Weathering and dirt means that much of the fine cracking is historic and, given that it is generally sound and does not appear to be worsening, probably dates back to soon after the application of the coating, i.e. the majority is due to overworking or initial drying shrinkage (refer 7.5.02 of the Overview: Stage One Report) and does not present a problem. Some of the coarser cracking is associated with friable surfaces and deterioration due to chemical agents (refer 5.3.03).
- 5.5.03 While some hairline fractures mainly horizontal and especially near the bases of plant pockets are likely to a consequence of the expansion of crystalline veins, i.e. sulfate attack (refer 5.3.04), the majority of fractures and associated displacement are due to unmanaged, woody vegetation. This is the greatest threat to the ongoing conservation of the Winterstoke Gardens PAR. Not just tree or shrub boles and root systems which have outgrown plant pockets, but also ivy and other invasive plants that have self–sown in fissures and sometimes fake cracks.



5.21: HORIZONTAL V SULFATE ATTACK AT BASE OF PLANT POCKET(C15)



5.22: WOODY VEGETATION SELF–SOWN IN OPEN FRACTURE (B15)

NEED FOR MAINTENANCE & REPAIR

- 5.5.04 Although often highly visible and in some cases involving considerable displacement, there are no instances where cracks or fractures are of immediate (short term) need of repair PROVIDED VEGETATION IS BROUGHT UNDER CONTROL AND MANAGED BY WAY OF ROUTINE MAINTENANCE, and that monitoring is an integral part of the inspection regime described over paragraphs 6.3.02 to 6.3.05. Following–on, the repair of all but the most minor fractures should by 'closing' the rockwork to the ingress of self–sown vegetation arrest the ongoing penetration of roots and woody stems:
 - **Hairline fractures** can in the main be left and monitored albeit micro–grouting would be a good way of filling the widest (up to 2 mm).
 - Depending on width, **major fractures** should be repaired by grouting or filling with a weak, lime mortar. All filling should be set back so as to avoid the need to

cut into and match otherwise sound surfaces. Maintaining the 'shadow' of the fracture will also ensure an 'honest' repair; a 'matching' repair would — by obscuring the fact that the repaired rockwork has a subtly different shape as compared to the original — distort the intention of the rock builders.

• Where fractures have led to wholesale **displacement**, the rockwork will need to be recorded, carefully taken down and rebuilt with original fabric eased back into position and where necessary surfaces skilfully repaired to match existing.

Filling and rebuilding will in all cases require localised clearance of all vegetation and soil, and — in order to 'stitch' historic fabric — the introduction of short lengths of helical, stainless steel bar to the 'earth' side of the fracture (refer Appendix D5.06).

5.6 **Previous repairs**

5.6.01 The only notable instance of previous repair was to the southwest (seaward) and northwest (steps) faces of the large square planter D01 where fractures and areas of lost surface have been filled with render. While ill–matched in terms of colour and texture, the repairs do not detract from the overall appearance of the PAR, albeit they are failing; it is suspected that root growth continues to press on the walls of the plant pocket, and that the repair might have suffered excessive shrinkage after the render mix placed (indicates a lack of curing and protection). While not urgent, loose and cracking render should be renewed as part of fracture repair (refer 5.5.04).

5.7 Summary and conclusion

- 5.7.01 Overall, the Winterstoke Gardens PAR is with the exception of fractures due to unmanaged vegetation in good condition:
 - Soiling and discolouration are minor concerns, aside from the dog urine issue.
 - The deterioration of coatings is little more than the 'patina of age' and although widespread, underside loss is due to the inherent vulnerability of overhangs
 — also best accepted as an integral part of the history of the rockwork, albeit veins of sulfate attack must be monitored.
 - Where the preferential weathering of sheltered, southwest facing surfaces has led to breakdown and total loss of coatings (the only notable deterioration); skilfully-matched surface repair (localised renewal) may be considered.
 - Hollowed or lost surfaces adjacent fractures should be likewise repaired.
 - Structurally sound with no evident issues with the backing or surface cracking, the only serious deterioration of the PAR is the fracturing of the rockwork due to unmanaged vegetation, with repair being a serious medium term consideration.

The PAR of Winterstoke Gardens will in 2023 be 100 years old. It has performed exceptionally well and is in good condition, bearing out the Pulham strapline of 'Durability Guaranteed'. Structurally sound with only minor deterioration of surface, the only serious damage is fractures due to unmanaged vegetation.

6. MAINTENANCE & REPAIR PLAN

6.1 Introduction

- 6.1.01 Set out in this section of the report is a prioritised maintenance and repair plan for the Winterstoke Gardens PAR that on the basis of its condition identifies work that needs to be carried out to:
 - (a) mitigate (as far as possible prevent) the further deterioration of its fabric;
 - (b) where necessary, put it in a state where it is structurally stable; and
 - (c) ensure its long-term conservation.

Its purpose is to provide the HAZ Partnership — especially Thanet District Council, which owns the rockwork — with a practical conservation strategy that can be implemented as and when funds and resources permit, as well as the confidence to (where appropriate) 'do nothing'. While going into detail for the purposes of ensuring high standards of maintenance and repair — and to provide a basis for discussions with the local planning authority (Thanet District Council) and other interested parties — THE STRATEGY (ESPECIALLY APPENDIX D) IS NOT A SPECIFICATION OR SCHEDULE FOR THE IMPLEMENTATION OF THE RECOMMENDED WORKS AND MUST NOT BE USED AS SUCH. Other than maintenance (where the report can be used a basis for action), the strategy is merely a starting point for a fully–specified and scheduled programme of works.

6.2 Preamble

PROCUREMENT

6.2.01 It is assumed that maintenance will continue to be carried out by a mix of volunteers and Council staff or contractors. Repairs should generally be undertaken by conservators experienced in the treatment of PAR or similar surfaces (e.g. stonework, stucco and plasterwork) with some understanding of early and modern artificial cements. Building contractors specialising in historic buildings may also have access to the necessary skills. Some types of repair may be within the capabilities of general contractors subject to hands–on training aimed at widening the skills base.

HEALTH & SAFETY

6.2.02 Attention is drawn to the fact that future works of all types (including maintenance) are likely to fall within the remit of the *Construction (Design and Management) Regulations 2015.* These impose on those commissioning building works (Clients) a duty to make suitable arrangements for managing projects including: allowing sufficient time and resources; making sure that relevant information is provided by others duty holders; that designers and contractors carry out their duties; that welfare facilities are provided; and a Health & Safety File is kept. The main risks associated with any work to the Winterstoke Gardens PAR are (i) the close proximity of members of the public; and (ii) access to maintain or repair rockwork at height.

IMPLICATIONS OF HERITAGE STATUS

6.2.03 It is assumed that — after further investigation, samples and trials as outlined in D1.01 & D1.02 of Appendix D — minor repairs will be carried out using the same materials and techniques as the existing fabric, and hence will not affect the significance of the Winterstoke Gardens PAR as an integral part of a designated heritage asset (Grade Il listed building in a conservation area). Likewise routine maintenance. It is therefore unlikely that listed building consent will be required albeit if certainty is needed, a Certificate of Lawful Proposed Works could be applied for (refer paragraph 9 of Historic England Advice Note 2: Making Changes to Heritage Assets published in February 2016). Anything other than minor repair should be discussed with the local conservation officer and agreement sought on any need for consents. If works are to be carried out piecemeal over a period of time, as and when funds permit, the possibility of Listed Building Heritage Partnership Agreement could be explored, essentially a 'term' consent for routine works that removes the need or successive consent applications. IT MUST BE NOTED THAT NEARLY ALL TREES IN CONSERVATION AREAS ARE PROTECTED (refer 6.3.08).

RECORDS

6.2.04 The dates and a brief description of all maintenance and repair activities should be formally recorded in a dedicated register (which may be electronic); references to more detailed records and information should were appropriate be included.

6.3 Maintenance

DEFINITION

6.3.01 Regardless of any future repairs, the maintenance of the Winterstoke Gardens PAR should always be considered a **high** priority (refer 6.4.02). The Historic England (formally English Heritage) guidance document *Conservation Principles* published in April 2008 defines maintenance as "routine work regularly necessary to keep the fabric of a place in good order". This is distinct from periodic renewal, repair (refer 6.4.01) or restoration.

INSPECTION

- 6.3.02 The key to the maintenance of any building or structure including those which are statutorily listed is a planned inspection regime, tailored to circumstances and proportional to size, form, fabric, usage and significance. In which context, condition surveys are crucial, as is made clear in BS 7913:2013 *Guide to the conservation of historic buildings* and the *Conservation Basics* volume of the English Heritage (Historic England) *Practical Building Conservation* series.
- 6.3.03 Using this Stage Two survey, and the associated survey sheets and photos (refer 1.4.06) as a baseline and with reference to the key plans provide as Appendix C:
 - An **initial** familiarisation inspection should be made, the aim being to ensure that those responsible for monitoring, etc. are able to readily spot new damage and

other changes. The process will need to be repeated when anyone new becomes involved in the inspection regime.

- The condition of the Winterstoke Gardens PAR should be monitored by way of a brief albeit structured **weekly** inspection.
- Additional inspections should be made out after any exceptionally heavy wind or rain (larger shrubs may be dislodged or soil might slip), vandalism (including graffiti), vehicular impact or other unforeseen potentially damaging event.
- More detailed check should be made **twice a year**, after die–back of planting in late autumn or early winter and before spring–summer regrowth.
- **Localised** inspections should follow any clearance of vegetation that reveals rockwork that hitherto has been concealed.

The baseline survey should be revisited and if necessary updated every **five years**, albeit the focus should be on that which has changed and not a resurvey.

- 6.3.04 Key points to note during inspections of the Winterstoke Gardens PAR are:
 - Early evidence of self-sown vegetation in cracks (real and fake), fractures, crevices and fissures.
 - New instances of soiling especially graffiti or biological deposits; the effectiveness
 of any campaign to reduce the impact of dog urine should be monitored. Also the
 localised occurrence or spread of mosses.
 - The lengths and widths of cracks and fractures, especially if new or recent (distinguished by sharp, clean edges). If there is any suspicion that cracks or fractures are propagating (getting longer and wider), simple monitoring should be put in place as Appendix D5.01.
 - Impact damage, especially after vehicles have been driven close.

Notes and digital photographs should be dated and labelled by survey zone (the first image in each baseline photo set shows the zone boundaries) with use made of tablets and smart phones (useful when comparing 'now' and 'then'). Full backups of all data must be kept on at least two desktop or laptop PCs which, along with any information in hard copy and the landscape guidance (refer 6.3.07), are accessible to all involved in caring for Winterstoke Gardens; an archive should be established.

6.3.05 Information obtained via inspections should be used to inform and keep under review the need for maintenance or repair. New cases of deterioration should be assessed and classified as maintenance (6.3.06 & 6.3.07) or repair (6.4.01 to 6.4.03, as far as possible avoiding the expense of reactive maintenance (6.3.09).

ROUTINE MAINTENANCE

6.3.06 Beyond inspection, the primary focus of maintenance that is to be 'carried out with forethought and control' (planned maintenance) is vegetation control. As noted in 5.5.03, this is the biggest conservation challenge faced by those charged with caring for the Winterstoke Gardens rockwork. Unmanaged vegetation is the principal cause

of cracks and fractures, the greatest threats to the long-term survival of PAR generally (refer paragraphs 7.5.03 and 7.5.04 of the Overview: Stage One Report).

- 6.3.07 Aside from any clearance required to permit fracture repairs (refer 5.5.04), the first step in managing the planting of the Winterstoke Gardens rockwork is to IMPLEMENT THE PROGRAMME OF REMOVAL **AND** SUBSEQUENT CONTROL AS RECOMMENDED IN THE SEPARATE REPORT AND SUPPORTING INFORMATION BY IRENE SEIJO, noting that any new planting should also accord with landscape architect's advice. Removal should also be in accordance with the guidance provided in Section D2 of Appendix D, it being essential that vegetation is not pulled or uprooted in a way that further damages the PAR (root systems may in places be holding the rockwork together); in many cases 'removal' will mean no more than cutting down to ground level and allowing roots, etc. to naturally decay (compost). Ongoing (future) management of planting is essential, and must extend to the:
 - early elimination of self–sown growths from open cracks or fractures, fake cracks and fissures; and
 - removal of moss (refer D3.02 of Appendix D); the rockwork thus exposed should be inspected for sky–facing cracks and other water traps.

Soil slippage should be monitored, noting that in many areas the underlying chalk is only thinly covered and if necessary clearing from paths, rockwork, etc. Future planting may help to mitigate any ongoing migration of soil.

6.3.08 WINTERSTOKE GARDENS IS IN A CONSERVATION AREA AND HENCE ALL WORKS TO TREES WITH A DIAMETER OF MORE THAN 75 MM MEASURED 1.5 METRES ABOVE GROUND LEVEL (100 MM IF TO ENABLE OTHER TREE TO GROW) REQUIRE FORMAL NOTICE TO BE SERVED ON THANET DISTRICT COUNCIL. Works cannot take place until consent has been given or a period of six weeks has elapsed, albeit there are exceptions: the Council's trees officer should be consulted prior to the instigation of any tree works. Different procedures apply when a specific tree is the subject of a tree preservation order (TPO), regardless of location (there are none within the curtilage of the Gardens).

REACTIVE MAINTENANCE

6.3.09 Allowance should also be made for unplanned (reactive) maintenance, i.e. the need to respond to unforeseen events such as fresh graffiti or vehicular impact. While graffiti should always be removed as a matter of priority (as D3.08 of Appendix D) 'reactive' works may be deferred, provided no further threat to historic fabric.

6.4 Repair

6.4.01 Historic England's *Conservation Principles* (refer 6.3.01) defines repair as "Work beyond the scope of maintenance, to remedy defects caused by decay, damage or use, including minor adaptation to achieve a sustainable outcome, but not involving restoration or alteration". For the purposes of this report, surface renewal (refer 5.3.06) and rebuilding (refer 5.5.04) are classed as repair and not restoration.

- 6.4.02 In order to assist the HAZ Partnership and Thanet District Council with future planning for the Winterstoke Gardens PAR, recommended works are prioritised:
 - **High:** to be carried out as soon as possible work to mitigate an immediate threat to historic fabric; also threats to the health and safety of persons.
 - **Medium:** to be undertaken when resources permit work which should be carried out as a matter of good practice in order to conserve PAR.
 - **Low:** to be planned for long term work to recover or enhance significance (including justifiable restoration) which can be deferred.

Prioritisation will help ensure that funds are targeted to greatest effect. However, these priorities are not rigid and works may be brought forward if funds are available, or if combining works is more efficient e.g. to make best use of temporary works.

Priority	Work(s) + survey zone(s) as identified in Section 5	Appendix D refs.
High	Remove moss + inspect: A12A, A12B, B01, B18, B20. D07, D11, D12 & D13	D3.01
	Public information campaign on dog urine	n/a
Medium	Localised surface repair + backing if also damaged: A04B, A12B, B07, B08, B20, C01, C05, C06A, C14, C21, D08 & E02C	D4.01 or D4.02 + maybe D4.03
	Hairline fracture monitoring + repair: A13 (2 no), A14A (6 no), A15 (2 no), A16 (2 no), B01, B02A, B04, B05 (2 no), B07, B08 (2 no), B10, B11, B12 (2 no), B13A (2 no), B15 (2 no), B18, B19, B20 (2 no), C01 to C03 (2 no), C05, C06A & B (2 no), C09, C10, C13, C18 (2 no), C21, D01, D02, D08, D10, E02C & E03 (2 no)	D5.01 or D5.02 and D5.06 + maybe D4.03
	Major fracture repair: A10, A14A, B07 to B13A, B14 to B16, B18 to B20, C01 to C04, C06A, C07, C13, C14, C18 to C21, D01, D05, E02C, E03 & E04	D5.03 or D5.04 and D5.06 + maybe D4.03
	Rebuilding: A08, A10, A13, B10, C01, C07 & D02	D5.05; D5.06 + maybe D4.03
Low	Surface renewal: B02A, B03, B05, B13A, B14, C08, C16, D02, D03B & D03A	D4.02
	Restoration of low railings (refer 4.1.04)	n/a

6.4.03 This table can be expanded in terms of detail and — along with the key drawings (Appendix C) and Appendix D — form the basis of cost planning and thence action.

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Item ref. EPW035447 Air Photograph of Winterstoke Gardens, Ramsgate Sands, the Royal Harbour and the town, Ramsgate. May 1931.

Item ref. EAW009031 Air Photograph of the Marina Bathing Pool, Winterstoke Gardens and housing off Victoria Parade, Ramsgate. 1947.

NATIONAL ARCHIVES (NA) https://www.nationalarchives.gov.uk

Item ref. INF/9/631/24 Photograph depicting Ramsgate, Kent: Winterstoke Gardens, east cliffs. 1926–42.

ORDNANCE SURVEY (OS) https://maps.nls.uk/os/index.html

25 inch (1:2500) County Series Kent XXXVIII.1 1873 surv.1871; 1898 rev.1896; 1907 rev.1905; 1933 rev.1931; 1946 rev.1939

7.2 Secondary sources

BOOKS & ARTICLES

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Henry, Alison & Stewart, John. *Practical Building Conservation: Mortars, Renders & Plasters.* English Heritage + Ashgate, 2011.

Hitching, Claude. Rock Landscapes: The Pulham Legacy — Rock Gardens, Grottoes, Ferneries, Follies, Fountains and Garden Ornaments. Woodbridge: Garden Art Press, 2012.

McCaig, Ian. *Practical Building Conservation: Conservation Basics.* English Heritage + Ashgate, 2013.

INTERNET

http://www.thanetonline.com Collections of historic photographs of Ramsgate.

7.3 Policy and guidance

BRITISH STANDARDS INSTITUTION (BSI)

BS 7912:2013 Guide to the conservation of historic buildings.

DEPARTMENT OF COMMUNITIES & LOCAL GOVERNMENT (DCLG)

National Planning Policy Framework. July 2018.

HISTORIC ENGLAND FORMERLY ENGLISH HERITAGE (EH/HE)

Graffiti on historic buildings and monuments — *Methods of removal and prevention.* October 1999.

Durability Guaranteed: Pulhamite rockwork — Its conservation and repair. January 2008.

Conservation Principles: Policies and Guidance for the Sustainable Management of the Historic Environment. April 2008.

Advice Note 2: Making Changes to Heritage Assets. February 2016.

APPENDICES

- A SURVEY PROFORMA
- **B** BASE PHOTO EXAMPLES
- C KEY DRAWINGS
- D OUTLINE REPAIR SPECIFICATIONS
- E LIST ENTRY

APPENDIX A

SURVEY PROFORMA

Christopher Garrand Consultancy			Sheet Number:	
August/September/December 2019				
Ramsgate: Wint	erstoke Gardens P	AR Survey		
SOILING + DISCOLOURATION				
□ Algae + Lichens	□ Mosses, etc.	□ Airborne dirt	□ Efflorescence	
□ Sulfate crusts	☐ Metal staining	Biological deposits	Graffiti	
Comments+ cross ref	erence to photos			
EROSION + LOSS	OF COATINGS			
□ Generally	□ Hollowness	□ Blistering	□ Total loss	
Comments including e	extent, likely cause + cross	s reference to photos		
DEFECTS IN BACK				
Description + commei	nts including extent, likely	cause + cross reference to p	photos	
CRACKS + FRACT	URES			
☐ Fine surface	□ Fractures	Displacement	Collapse	
Comments including e	extent, likely cause + cross	s reference to photos		

PREVIOUS REPAIRS

Description + comments including extent + cross reference to photos

APPENDIX B

BASE PHOTO EXAMPLES



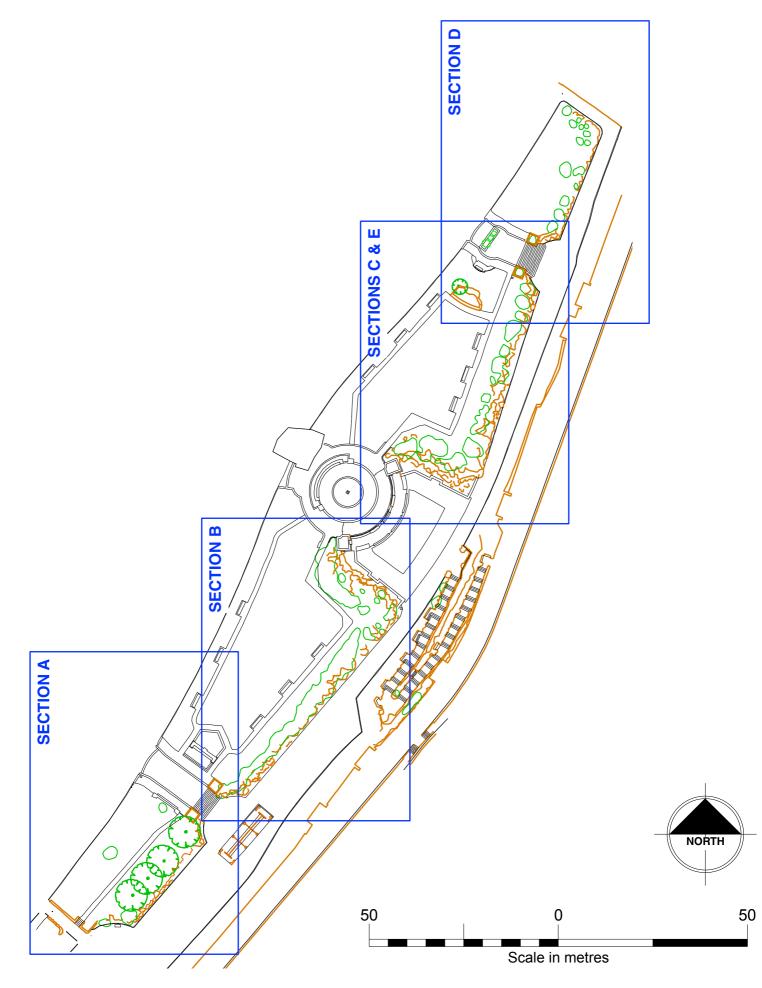
BASE SURVEY PHOTO (TOP) & MARKED-UP COPY (BOTTOM)

APPENDIX C

KEY DRAWINGS

Ramsgate Heritage Action Zone (HAZ) Partnership Consevation of PULHAMITE ARTIFCIAL ROCKWORK WINTERSTOKE GARDENS Survey Zones KEY PLAN

scale: 1:1000 @ A4 date: Jun 2020



Insert C02 (4 x A3 pages) here

APPENDIX D

OUTLINE REPAIR SPECIFICATIONS

- D1 Preamble
- D2 Vegetation removal
- D3 Cleaning
- D4 Surface repair
- D5 Fracture repair

D1 Preamble

INTRODUCTION

Set out in this Appendix is technical information to guide the specification of repairs to Pulhamite Artificial Rockwork (PAR) of Winterstoke Gardens. The approach is 'conservative' in that it presumes the maximum retention of historic fabric, and repair methods which are compatible with original materials and construction. It covers:

- Vegetation removal.
- Cleaning.
- Surface repair.
- Fracture repair.

SPECIFICATIONS ARE PROVIDED FOR GUIDANCE ONLY AND SHOULD NOT BE USED TO PROCURE ANY WORKS; THEIR PURPOSE IS TO INFORM THE SPECIFICATIONS OF OTHERS, TO WHICH END THEY SHOULD BE ADAPTED AND DEVELOPED TO SUIT THE CIRCUMSTANCES OF A SPECIFIC PACKAGE OF WORKS.

D1.01 FURTHER INVESTIGATION

Given the need to understand the chemical mechanisms that appear to be largely responsible for effloresce, sulfate curst and loss of surface — AND TO ENABLE THE DESIGN OF COATING MIXES FOR REPAIR — samples of PAR from a variety of locations should be submitted for petrographic (thin section) analysis by a UKAS accredited laboratory. The purpose of the analysis is to identify the:

- composition of the coating including binder to aggregate ratio, mineralogical content; grain size and shape; and
- the presence of salts and any chemical reactions that have caused the break down of coatings.

Pigment (electron microscope) analysis should also be undertaken. Exposed concrete backings should also be tested and, if rebuilding, brickwork mortars.

D1.02 SAMPLES & TRIALS

For all types of repair, allowance should be made for samples and trials, with particular attention paid to cleaning and the quality of surface repairs. See also the introductions to Sections D3 an D4.

D1.03 RECORDING

All trials should be written up, and repairs should be fully recorded 'before' and 'after' with allowance included for written reporting by conservators and others. See also paragraphs 6.2.04 and 6.3.04 of the main body of the report.

D2 Vegetation removal

INTRODUCTION

Other than where removal is required to enable repairs, it is assumed that works to vegetation generally will be as set out in the SEPARATE REPORT, SUPPORTING INFORMATION AND GUIDANCE PREPARED BY IRENE SEIJO to which the guidance provided in this section is supplementary.

D2.01 YOUNG & SOFT ROOT GROWTHS

First shoots and soft–rooted plants can be carefully hand–plucked from cracks and open fissures, perhaps with the help of tools. Vegetation with soft roots may be carefully uprooted albeit cutting down to ground level and leaving the roots to decay (compost) into the ground is generally preferable.

D2.02 IVY & WOODY SHRUBS

Ground–rooted ivy and woody shrubs should be cut back to ground level, root balls loosened and as much bark as possible stripped, leaving the stumps to die as the roots decay. It may in some instance be necessary to also treat stumps with a suitable herbicide (e.g. Roundup Tough Ready by Monsanto UK Ltd.):

- (a) Cut back stumps to expose a fresh surface immediate prior to treatment, and treat with herbicide brushed direct onto the freshly cut face.
- (b) Do not apply herbicide on a windy or wet day, immediately after frost, or when the PAR is saturated following heavy rain noting that HERBICIDES ARE TOXIC.

Deeply–rooted ivy and woody shrubs to be removed from open fractures, fissures, etc. should also be cut back and if necessary treated with — in the case of ivy — a systemic herbicide applied to the leaves before cutting. Decayed roots, etc. should be carefully removed by hand, using a hook to reach deeply–embedded material; on no account should roots be pulled or jerked. In the case of large stumps, arboricultural advice should be sought.

D2.03 TREES

Full removal of trees should only ever be on the advice of an arboriculturalist (not a tree surgeon). Stumps should be treated to prevent regrowth and left to decay (compost) and not ground–out. Refer paragraph 6.3.08 of main body of the report for information on the PROTECTION OF TREES IN CONSERVATION AREAS.

D2.04 CLEARANCE OF PLANT POCKETS

Vegetation should be removed or cut–down to ground level as D2.01 to D2.03. The soil surrounding woody boles should be excavated by hand so as to expose the root ball, which must then be systematically cut into sections and removed piecemeal along with all additional soil. Roots that extend beyond the plant pocket should be cut, treated as D2.02 and left insitu; dismantling as D5.05 will ease clearance.

D3 Cleaning

INTRODUCTION

While cleaning of the Winterstoke Gardens is not generally required (paragraph 5.2.05 of the main body of the report), there are instances when removal of soiling may be beneficial, e.g. when undertaking surface repair (refer D4.02) or when removing fresh graffiti. CLEANING SHOULD ONLY BE CARRIED OUT ON THE BASIS OF SUCCESSFUL, FULL DOCUMENTED TRIALS THAT CAN EASILY BE REPLICATED NOTING THAT UNDER NO CIRCUMSTANCES MUST 'JET WASHING' OR 'SAND BLASTING' BE USED; BOTH ARE LIKELY TO CAUSE IRREPARABLE DAMAGE WHILE BEING OF LIMITED EFFICACY.

When cleaning the PAR, it is important to provide all necessary protection to prevent water running–off over the surfaces of the rockwork generally. If it becomes necessary to use chemicals, avoid contact between chemical agents and any material or element other than that being cleaned, and ensure that chemicals are not flushed away via rainwater gullies, or allowed to pollute the ground or nearby water courses. PERSONS UNDERTAKING CLEANING MUST BE WEARING ALL NECESSARY PERSONAL PROTECTION.

D3.01 LICHENS

For small areas and the exposure of tinted surfaces, hand–brushing combined with a fine water spray will generally be sufficient. BRUSHES MUST BE NON–FERROUS; BRISTLE IS PREFERRED. An initial clean with an industrial vacuum cleaner can be useful for removing any loose material. Larger areas can be cleaned using the DOFF or THERMATECH systems of superheated water (steam):

- (a) To activate the soiling, two complete passes of all surfaces to be cleaned, typically at a temperature of 130 degrees centigrade + 110 bar pressure.
- (b) A final pass to remove soiling from specific working areas.
- (c) Superheated water (steam) cleaning only should be carried out by trained and experienced operatives.

Treatment with biocides is not recommended as these may inhibit lichens from returning to (recolonise) surfaces following repair.

D3.02 MOSS

Other than where it can be simply lifted, moss should be gently removed using a wooden or plastic spatula, followed hand–brushing as D3.01.

D3.03 AIRBORNE DIRT

Generally, the same cleaning methods as for lichens can be used (refer D3.01) save that stubborn areas of soiling — especially build–ups of hydrocarbon — can be locally treated using an ammonium carbonate clay or paper based poultice applied strictly in accordance with the manufacture's instructions, with particular attention paid to dwell times, neutralisation and disposal.

D3.04 SURFACE EFFLORESCENCE

Removal of surface efflorescence is best achieved with DRY brushing or for large areas perhaps an industrial vacuum cleaner with soft brush attachment. UNDER NO CIRCUMSTANCES MUST WATER IN ANY FORM BE USED. Due to the permanent exposure of the rockwork to salts (refer paragraphs 5.2.03, 5.3.03 and 5.3.04 of the main body of the report), efflorescence will almost certainly reoccur.

D3.05 SULFATE CRUSTS

The cleaning of sulfate crusts from PAR is a difficult issue as the formations to be removed may well have cross-bonded (interlinked) with the binder-aggregate matrix of the render coating, meaning that removal brings with it a high risk of irreversible loss of historic surface. Methods to be considered would include:

- (a) TORC (formerly JOS) or VORTECH which are wet, swirling air abrasive systems with a high degree of variability and control, ALBEIT ONLY WHEN USED BY TRAINED AND EXPERIENCED OPERATIVES.
- (b) Clay or paper-based poultices.
- (c) Softening (by wetting) and gradual removal, possibly using superheated water as described in D3.01 and light chiselling.

If removal is contemplated, then trials — ideally by a conservator specialising in stone and plaster surfaces — are especially critical. Attempts to remove sulfate crusts must be abandoned if trials prove unsuccessful.

D3.06 METAL STAINING

Ferrous and non–ferrous metal stains are best removed with a stain remover poultice used strictly in accordance with manufacturer's instructions:

- (a) Trowel–apply a heavy coating approximately 6–7mm thick to stained area.
- (b) Allow poultice to remain on surface for 8–10 hours or until dry.
- (c) Carefully lift the dried poultice from the treated surface using a trowel.
- (d) Wash residual poultice from treated surfaces with fresh water and a stiff–fibred masonry brush.
- (e) Allow surfaces to dry and repeat as necessary.

The required number of applications of the poultice to be established by controlled trials. Multiple applications may be needed albeit the complete removal of staining cannot be guaranteed as the repeated cleaning process will draw deep–seated salts to the surface. POULTICES DESIGNED TO REMOVE METAL STAINING ARE STRONG ALKALINE COMPOUNDS THAT CAN CAUSE IRRITATION, NECESSITATING SUITABLE GOGGLES, FACE SHIELD, PROTECTIVE CLOTHING GLOVES WHICH AVOID CONTACT WITH SKIN OR EYES AND POSSIBLY RESPIRATORY EQUIPMENT, DEPENDING ON WORKING CONDITIONS.

D3.07 BIOLOGICAL DEPOSITS

Other than lichens, mosses, etc. (refer D3.01 & D3.02), the principal type of biological deposit that is likely to need cleaning is guano, i.e. bird droppings. Light deposits can be left to be washed away by the rain. Heavy build–ups can be removed by judicious softening with water (soaking should be kept to the minimum) interspersed with rinsing, NOTING THAT GUANO IS HAZARDOUS TO HUMANS (it can cause respiratory diseases, especially when dry) and hence removal and disposal must be in accordance with current health and safety legislation and guidance. Contamination of the PAR by urine is a problem best dealt with my management (refer paragraph 5.2.06 of the main body of the report). Canine and other — including human — faeces should be immediately washed away using clean water; no reliance should be placed on dried faces being rapidly dispersed by rain.

D3.08 GRAFFITI

The two types of graffiti present on the Winterstoke Gardens rockwork are chalk and aerosol paint, albeit future disfigurement by way of brush–applied paint, felt tip marker, ballpoint pen, wax crayon or lipstick cannot be discounted; also the possibly of fly posters and adhesive labels. Notwithstanding chalk — which will eventually wash away, other than in sheltered areas where light sponging may be employed (early rubbing can permanently stain, especially if 'blackboard' chalk, which is mainly of gypsum) — chemical treatment is the most effective way of cleaning graffiti, especially where on porous surfaces like the render coating of PAR. Chemical removes are generally of two types:

- Alkaline which break down oil-based films by means of 'saponification" (the conversion of a fat to a soap), following which they must be rinsed from the surface with hot water then neutralised with a weak acetic product, e.g. (vinegar) or a dilute hydrofluoric-acid based (use of which is by law restricted).
- **Solvent** which soften and swell binding media (paint strippers are solvent–based clearers) and dissolve soluble dyes. They are especially useful for removing felt tip markers. MUST ONLY BE USED ON DRY SURFACES.

There are many types of chemical cleaner on the market, available in a variety of forms including sprays, liquids, gels and poultices. Initially, the advice of specialist suppliers should be sought e.g. Tensid UK Ltd. (<u>https://tensiduk.com</u>) or Restorative Techniques Ltd. (<u>https://www.restorative-products.com</u>). A variety of products should then be trialled leading to a list of what may be used in which situation, noting that old and fresh graffiti may require differences in approach. Generally, gels and poultices will give more control, and are most effective if repeated applications are used.

Anti–graffiti coatings are not advised and rarely acceptable for historic buildings and structures. In–depth guidance on graffiti removal can be found in the Historic England advice note *Graffiti on historic buildings and monuments* published in October 1999 (<u>https://historicengland.org.uk/images_books/publications/graffiti–on-historic-buildings_and_monuments</u>).

D4 Surface repair

INTRODUCTION

Surface repair is the aspect of the PAR conservation that requires the most skilful 'design' and execution. It should only be undertaken by accredited conservators or other practitioners who can — by way of trials and exemplars — demonstrate they have the ability to carry out repairs that, as well as being technically sound, accurately match the texture and colour of the original rockwork. Offsite and insitu mortar trials based on analysis (refer D1.01) are an essential precursor to surface repair, and should include:

- Assessments of colour and colour range (to reflect varying 'tints'), surface aggregate types, the suitability and workability of mortar, and setting times.
- Sample boards that comparatively display varying textures and colours.
- Insitu trials which show the intended surface finish and detailing, and which may be used as exemplars.
- All samples and trials should be examined and matched to historic coatings in 'wet' and 'dry' states.
- Depending on the outcome of further investigation, a variety of binders may be used including natural hydraulic limes (perhaps blended with natural cement) and hydrated lime–OPC mixes.

In designing mortars for surface repair, it is important to check suitability for in-use conditions: an exposed environment and high sulfate content backgrounds should be assumed. Colour is likely to require the addition of high quality, natural pigments.

D4.01 DRESSING

The purpose of 'dressing' is to locally — and lightly — cut–back and stabilise exposed edges resulting from lost areas of coating, and which may trap water or encourage further detachment. It is an approach to 'repair' that demands fine judgement:

- (a) With the utmost care and with the gentlest touch, carefully remove loose and friable material using if necessary a fine, sharp mason's chisel.
- (b) Rub down by hand using a carborundum stone before finally using a stiff brush to remove all loose material and to ensure the removal of all pockets or ledges that might trap water.
- (c) Edges are to be left as smooth as is practicable without any cutting back.
- (d) Hollow but otherwise sound material adjacent the missing areas of coating can be re–adhered using grouting techniques as D4.03 and D5.02.

Eventually, the area of missing surface may need to be renewed as D4.02.

D4.02 RENEWAL

The renewal (or restoration) of PAR surfaces is a sequential process that should only be carried out in between spring and autumn (low temperatures will impede the set and result in premature failure):

- (a) Preparatory work:
 - All vegetation that may obstruct the repair must be removed, and surfaces brushed clean of soil and other organic deposits; treatment with a herbicide may be necessary, subject to discussion with the volunteer group and others involved in plant maintenance and management.
 - Before any trials or repairs commence, some areas of PAR including around areas to be repaired and as far back as the nearest fissure or other natural 'lines' in the rockwork — should be fully cleaned as D1. The purpose of cleaning is to reveal the true colour and texture (and any variation) of the surfaces to be renewed or restored, and to mitigate the tendency for repairs to create a 'patchy' appearance.
 - Failing existing repairs (loose and friable material) must be entirely removed, using if necessary a chisel to ease from the surface.
- (b) Background repair and preparation:
 - Inspect exposed masonry or concrete backing and repoint, pack, pin, consolidated or otherwise repair so as to ensure a firm base.
 - Using fine, sharp chisels make a neat cut to frame the area of coating to be repaired, cut back full depth with edges slightly undercut so as to avoid the subsequent 'feathering' of the coating.
 - In order to provide a key for the new mortar, scabble ('roughen') the exposed surface of the backing with randomly drilled holes, peck marks, raked–out joints (in brickwork) etc.
 - Use a water spray to clean all dust and debris from the area to be repaired
 - Control suction of background by pre–wetting with water so brick, concrete, etc. is damp (not saturated) when mortar is applied.
- (c) Mortar mixes:
 - To be finalised following trials, etc. as above.
- (d) Application:
 - Repair (restoration) mortar is to be applied in two coats.
 - Pack the backing repair mortar into the area to be repaired (restored), working from the edges of the cavity into the centre to ensure that the undercuts are entirely filled with no feather edges.
 - Bring the mortar to an even distance of 3–4 mm from the face of the finished repair, taking care not to overwork. Score and leave to allow a preliminary

set, wetting the surrounding rockwork and protecting with plastic to control water loss and shrinkage and ENSURING THAT THE FACING MORTAR IS APPLIED AT AN EARLY STAGE — 'GREEN-ON-GREEN'.

- Similarly place the facing mortar, slightly overfilling (i.e. mortar slightly proud of the face of the adjacent surfaces). Re–compact by pressing after two hours if required. Wet the surrounding PAR and protecting with plastic or damp hessian to control water loss and shrinkage.
- (e) Finishing:
 - After surface hardening has commenced though while the mortar is still 'green', scrape back the surface to the finished line.
 - Further compact using a still bristle brush, or similar, working the surface so as to bring out the aggregate to match the PAR, if needed modelling with fine tools to ensure a smooth transition between original surface and repair.
- (f) Protection:
 - Protect mortar from direct sunlight, wind and rain with damp hessian or plastic sheeting in close contact for at least one week after placing so as to assist surface curing and — where pigments are part of the mix — to ensure consistency of colour. In hot weather, prevent rapid drying out by wetting with a fine mist spray two or three times a day.

D4.03 CONSOLIDATION OF LOOSE SURFACES

Loose but sound PAR surfaces can in some cases be grouted in situ:

- (a) Thoroughly flush the void behind surfaces with clean water to ensure removal of all loose materials.
- (b) Undertake trials to establish the best method of delivering the grout.
- (c) Ideally, most work will be gravity grouting, i.e. injected from above.
- (d) Inject grout at holes provided at suitable centres, allow grout to flow through weep holes initially and then block holes. Build up grout levels gradually, without causing water pressure to force surface off.
- (e) On vertical surfaces, consider applying grouts via temporary clay 'cups'.
- (f) A natural hydraulic lime grout as D5.03 or a proprietary product may be used.
- (g) For very fine interfaces nanolime grout as D5.02 may be considered.
- (h) Protect the repair which should initially be kept damp (not wet) using a hand spray with damp hessian or plastic sheeting until the grout is cured.

D5 Fracture repair

INTRODUCTION

The Overview: Stage One Report (paragraph 7.5.04) identifies fractures due to unmanaged wood vegetation as the greatest threat to the ongoing conservation of PAR. Set out below are repair techniques that can be used to fill and stabilise fractures, depending on the extent of displacement, i.e. crack width or collapse.

D5.01 MONITORING

Fractures can be easily monitored by a number of simple methods including the routine inspection of grouting and filling as D5.02, D5.03 and D5.04 — opening–up at the edges or cracks forming in mortar parallel to the fracture are good indicators of possible further movement, save that allowance must be made for the possibility of the initial shrinkage. Photographic records (refer paragraph 6.3.04 of the main body of the report) can in this context be invaluable. A more sophisticated way of monitoring open fractures would be to adhesive–fix three small metal disks (e.g. one pence pieces) spot–marked with a centre punch, two one side of the fracture and one the other so as to form a triangle. The lengths of the sides can be measured at intervals with a simple, digital calliper: changes in dimension will indicate if the fracture is opening, and in which direction.

D5.02 MICRO GROUTING

Hairline fractures of up to 2 mm in width should be filled with grout comprising an isopropyl–based nanolime with a concentration of 5–10 g/litre such as CaLoSil IP5 by IBZ–Salzchemie GmbH & Co.KG (distributed in the UK by Hirst Conservation: <u>http://www.hirst–conservation.com</u>) blended with fine fillers (aggregates) such as crushed stone sand, and stone or marble dusts:

- (a) Plant pocket to be cleared as D2.04 and stitched as D5.06.
- (b) Fractures to be cleared of dust and debris using an industrial vacuum cleaner or other means of aspiration then rinsed with water until it runs clear.
- (c) Bottom ends of all vertical fractures to be stopped externally with cotton wool (to prevent grout running–off over the face of the PAR); likewise the grout holes to horizongal fractures.
- (d) On external faces, fractures to be temporarily stopped with clay (so as to retain grout while it develops an initial set) and internally backed–up with tape, clay or other temporary stopping that prevents loss of grout into the plant pocket.
- (e) Fractures to be pre-wetted with alcohol (isopropyl) directly before grouting.
- (f) Grout to be progressively applied with a syringe working sequentially from the bottom of the crack upwards so as to fill entirely the fracture, using a sponge to ensure that grout does not leach or dribble from grout holes.

D5.03 GROUTING

Fractures of 2–5 mm in width should be filled with natural hydraulic lime (NHL3.5) grout. Assuming gravity fill, the binder (lime) should be blended with a well washed sand at an approximate ratio of 1:2 and mixed with enough clean water to make a fluid paste (fluidity which can be improved by the addition of casein equal to about 1% of the weight of the lime which will also reduce the amount of water needed). Sand must be graded (sieved) to ensure grains are no larger than about 1/3 of the width of the fracture to be filled, with trials used to establish the optimum balance between sharp and soft sand. A proprietary ground may be used in lieu:

- (a) Plant pocket to be cleared as D2.04 and stitched as D5.06.
- (b) Fractures to be cleared of dust and debris using an industrial vacuum cleaner or other means of aspiration then rinsed using a hand sprayer with a fine jet of water until it runs clear.
- (c) Grouting to be raised in maximum 300 mm 'lifts'. Do not continue until previous lift is set and can support additional grout above.
- (d) The bottom ends of each lift of grouting which need to be left 'open' to allow the grout to flow — should be stopped with cotton wool to prevent grout running– off over the face of the PAR.
- (e) External and internal faces of each lift to be temporarily stopped with clay to retain grout while it develops an initial set.
- (f) Fractures to be flushed-through and pre-wetted directly before grouting.
- (g) Grout to be progressively applied working sequentially from the bottom of the crack upwards so as to fill entirely the fracture, using a sponge to ensure that grout does not leach or dribble from the base of each lift.
- (h) On completion, rake back and compact mortar using fine tools, and stipple with a stiff bristle brush so as to break the surface of the joint which should finish about 5 mm back from the surface of the PAR to as to create a shadow line.
- (i) Protect the repair which should initially be kept damp (not wet) using a hand spray with damp hessian or plastic sheeting until the grout is cured.

D5.04 MORTAR FILLING

Fractures wider than 5 mm in width should be filled with 1:2–3 natural hydraulic lime (NHL3.5) mortar with a sand–chalk aggregate. Sand must be clean, well–washed and SHARP and conform broadly to Type S of BS 1200:1976 (replaced by BS EN 13139:2013 but still current) with a clay content not exceeding 1–2% and particle sizes between 2.36mm to 150 microns. Dried, crushed hard white chalk to be free from clay and silt and sieved to broadly to the same grading of the sand, though larger particles may be acceptable for wide joints. If necessary, the blended aggregate to be further sieved to ensure that when filling joints less than about 10 mm the largest particle size is a maximum of approximately 1/3 of the width of the joint; allow for

grading on site to account for variations in the joint width. Sieved charcoal may be used to control colour. A premixed mortar be used in lieu:

- (a) Plant pocket to be cleared as D2.04 and stitched as D5.06.
- (b) Fractures to be cleared of dust and debris using an industrial vacuum cleaner or other means of aspiration then rinsed using a hand sprayer with a fine jet of water until it runs clear. Rinse all debris from surface of PAR.
- (c) Wedge firmly against the rear face of the fracture a board or other surface against which mortar can be firmly pressed.
- (d) Dampen fracture immediately prior to filling. Starting at the bottom, fill fracture with mortar, pressing well back with a pointing iron of the correct size. Bring joints flush or slightly proud of the surface of the surrounding PAR. Protect as necessary until finishing. DO NOT AT THIS STAGE REMOVE SURPLUS MORTAR.
- (e) It may be necessary to fill in more than one application (to avoid slumping of the mortar or excessive shrinkage), pushing the mortar hard back into the joint with a tamping iron or similar tool and building–up in layers, allowing each application to dry (dewater) before applying the next.
- (f) Allow the mortar to go off. Do not attempt to scrape fresh mortar from masonry surfaces. Rake out and compact mortar using fine tools, and stipple with a stiff bristle brush so as to break the surface of the joint which should finish about 10 mm back from the surface of the PAR to as to create a shadow line.
- (g) Protect mortar from direct sunlight, wind and rain with damp hessian or plastic in close contact for at least one week after placing. In hot weather, prevent rapid drying out by wetting with a fine mist spray two or three times a day.

D5.05 REBUILDING

The purpose of rebuilding is to carefully take down and reconstruct unstable or falling areas of PAR, using as much original material as possible, following — and where necessary recreating — the original pattern of the rockwork, and replicating the texture and colour of existing surfaces:

- (a) Clear plant pockets as D2.04.
- (b) Allow for all necessary temporary works including any need for propping and provision for safe lifting, noting especially the requirements of *The Manual Handling Operations Regulations* 1992 which limit the weight of what can be lifted by a single person to 20 kg.
- (c) Before taking down, record the PAR as it stands, assigning a unique number to each fragment. Positions of fragments can be recorded on marked–up photos
- (d) Carefully take down the PAR fragment-by-fragment, working sequentially top to bottom, numbering each fragment with chalk and placing registration marks prior to removal. The top, bottom and rear of each fragment must be marked. Store fragments in a systematic manner, laid out in sequence.

- (e) Clear all fragments of extraneous mortar, dust and debris.
- (f) Wetting fragments as work proceeds, rebuild PAR in the reverse sequence of taking down, working as far as possible in horizontal layers (courses) placing each numbered fragment back in its original location and in the correct orientation, albeit where necessary eased back into place.
- (g) Bed fragments in mortar to match existing (mix to be determined following analysis as D1.01) incorporating stitching as D5.06.
- (h) Repair and consolidate surfaces as D4.02 and D4.03.
- (i) Cover rebuilt PAR at the end of each day, and provide on-going protection generally as for surface repairs, though allowing for the rebuilt work being wetter and hence the possible need to remove protection earlier (to allow any free lime in the mortar to dewater and carbonate).

D5.06 STITCHING

Tie together brickwork either side of fracture using Grade 1.4401 (formerly Type 316) austenitic stainless steel, 6 mm diameter helical bars, e.g. HeliBar Remedial by Helifix Ltd. (<u>https://www.helifix.co.uk/products/remedial-products/helibar-remedial/</u>) held in place with thixotropic epoxy anchor grout such as Webertec EP TAG by Saint-Gobain Weber Ltd. (<u>https://www.uk.weber/webertec-ep-tag</u>):

- (a) Following clearance of plant pocket as D2.04 to expose rear face of brickwork, rake out mortar from every third bed joint.
- (b) Clean raked joints of dust and debris using an industrial vacuum cleaner or other means of aspiration then rinse using a hand sprayer with a fine jet of water until it runs clear.
- (c) by flushing with clean water, allow to dry and brush clear any loose mortar, soil or material.
- (d) Set 900 mm long bars into cleared bed joints, taking note of temperature and curing time of epoxy grout.
- (e) Repoint (fill) raked joints with natural hydraulic lime (NHL 3.5) mortar.
- (f) Protect mortar with damp hessian or plastic sheet for at least a week.

Following completion of stitching, fractures may be grouted or filled as D5.02, D5.03 or D5.04 and the plant pocket eventually re–filled with soil.

APPENDIX E

LIST ENTRY



 $Q \equiv$

Sun shelter and rock gardens and pools, Winterstoke Gardens

Overview

Heritage Category: Listed Building

Grade: II

List Entry Number: 1336318

Date first listed: 04-Feb-1988

Date of most recent amendment: 19-Jun-2020

Statutory Address: Victoria Parade, Ramsgate

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The above map is for quick reference purposes only and may not be to scale. For a copy of the full scale map, please see the attached PDF - <u>1336318.pdf</u> (http://mapservices.HistoricEngland.org.uk/printwebservicehle/StatutoryPrint.svc/542298/HLE_A4L_Grade|HLE

The PDF will be generated from our live systems and may take a few minutes to download depending on how busy our servers are. We apologise for this delay.

This copy shows the entry on 22-Jun-2020 at 01:48:25.

Location

Statutory Address: Victoria Parade, Ramsgate

The building or site itself may lie within the boundary of more than one authority. County: Kent

District: Thanet (District Authority)

Parish: Ramsgate

National Grid Reference: TR3921265610

Summary

Landscaping of a municipal park on the cliff top to the east of Ramsgate, built 1920-1923 to the designs of Sir John Burnet and Partners and Pulham and Sons. The work was a gift to the borough from Dame Janet Stancombe-Wills who owned the nearby house, East Court.

Reasons for Designation

The Sun Shelter, Rock Gardens, Pools and Benches, Winterstoke Gardens, Victoria Parade, Ramsgate is listed at Grade II for the following principal reasons:

Architectural interest: * it is comparable in interest to other designated examples of Pulhamite structures and representative of the Pulhams' innovative design and construction of garden and park structures.

Historic interest:

* the laying out of the cliff-top gardens was an act of enlightened patronage and civic improvement by Dame Janet Stancomb-Wills, the patroness and owner of East Court Ramsgate, which stands nearby; * this forms part of an important grouping of Pulhamite structures which are spaced along the seafront at Ramsgate and which were built in the period between 1894 and 1936; * the design of Winterstoke Gardens was made by the noted architectural firm of Sir John Burnet and Partners. Group value:

* with The Rock Gardens and cliff stairs about 30m south of sun shelter, Victoria Parade (Grade II) and East Court, Brockenhurst Road (Grade II*) and former stable block to north of East Court, Brockenhurst Road (Grade II).

History

From the mid-C18 Ramsgate became increasingly popular as a seaside resort, its expansion being accelerated by road improvements and faster sea passage offered by hoys, packets and steamers. An assembly room, warm water baths, subscription libraries and places of worship were joined by new streets such as Effingham Street and speculative crescents and squares on the East and West Cliffs such as Albion Place of about 1791-1798 and Nelson Crescent of about 1800-1805. During the Napoleonic Wars Ramsgate became a busy garrison town and a major port of embarkation. Ramsgate's importance in the 1820s is attested by its patronage by the British and European royal families and the creation of a separate parish by Act of Parliament, served by the large Church of St George (1824-1827). The harbour is the only one in the British Isles which has the designation 'Royal', granted by George IV.

The arrival of the South Eastern Railway's branch line in 1846 opened up Ramsgate to mass tourism and popular culture, bringing a range of inexpensive, lively resort facilities intended for the sorts of middle- and working-class holidaymakers depicted in WP Frith's painting 'Ramsgate Sands' of 1854 (Royal Collection). Wealthier visitors were accommodated at a respectable distance from the town in developments such as EW Pugin's Granville Hotel of 1867-1869. Competition with other Kentish resorts stimulated a series of large-scale improvements in the late-C19 and early-C20 including the construction of Royal Parade and landscaped stairs and pathways at the eastern and western ends of the seafront to join the upper promenades to the Undercliff walks. New schools, hospitals and services were also built. The thriving town attracted diverse faith communities; Moses Montefiore founded a synagogue and a religious college at East Cliff Lodge, while AWN Pugin St Augustine's Church and the Grange as part of an intended Catholic community on the West Cliff.

In 1940 the harbour was the point of return for many of the small boats involved in the evacuation from Dunkirk and war-time precautions included the digging of extensive air raid shelter tunnels in the chalk beneath the town. Ramsgate remained a popular holiday destination until the advent of cheap foreign travel in the post-war decades. Falling visitor numbers were exacerbated by the decline of the town's small trades and industries, fishing and boat-building. However the large marina created in the inner harbour in the 1970s and developments such as a hoverport and ferry terminus continued to bring life to the area in the later C20, albeit that hovercraft and ferry sailings have now ceased.

Rock gardens first seem to have appeared in England from the C17 as a suitable setting for exotic plants. The influential landscape designers Humphry Repton (1752-1818) and John Claudius Loudon (1783-1843) both promoted the idea of naturalistic rock formations in a landscape and this coincided with the importation of new species of plants into England from mountainous areas.

From the 1840s a number of companies began experimenting with cements to cover a base of hard core in imitation of large-scale rock formations. James Pulham and Son of Broxbourne in Hertfordshire were amongst several such makers, and also specialised in terracotta ornaments. The longevity of their company which produced work from about 1840 to 1945 under the leadership of three generations of the Pulham family, all named James, marked them out, as did the quality of their products. Their work and patrons included relatively modest suburban villas as well as bankers, ship and railway owners and the royal family. Work at Sandringham, Windsor and Buckingham Palace earned the company a royal warrant in 1895. 'Durability Guaranteed' was one of the company's claims, and this has largely proved to be true. Whether real stone or artificial, an aim of designers was to replicate the appearance of genuine rock formations with geological strata. Pulhams was noted for this and from the 1880s they experimented with different colours and textures of cement. The structure of their designs was a core of over-burnt bricks, waste stone and slag, or other industrial waste that was locally available.

Overhangs were of real slate or sandstone and the whole structure was finished with two coats of render.

The various constructions of rockwork at Ramsgate, realised by Ramsgate Corporation from the 1890s, with the last work on the Winterstoke Chine in 1936, form one of the largest groupings of their designs and provides a good cross-section of their work and the compositional possibilities offered by different locations and gradients.

Winterstoke Gardens with rockery work by Sir John Burnet and Partners and Pulham and Sons was laid out in 1921-1923. A gift to the borough from Dame Janet Stancomb-Wills, it is believed to have cost more than £10,000 and is the subject of this present case. As a continuation of this planned landscape, the portion of cliff face and the sloping pathway which forms Winterstoke Chine, connecting the Eastcliff to Winterstoke Undercliff, were added in 1936 to the designs of Pulham and Sons with the borough engineer, Alec Adlington.

Details

Landscaping of a municipal park on the cliff top to the east of Ramsgate, built 1920-1923 to the designs of Sir John Burnet and Partners and Pulham and Sons. The work was a gift to the borough from Dame Janet Stancomb-Wills who owned the nearby house, East Court.

MATERIALS and PLAN: cement render and Pulhamite cement rockwork over hardcore, with iron railings. The design takes advantage of the fact that the ground slopes towards the south to place the sun shelter and rockery as a front to the sloping terrain. The central element in the planned landscape is a circular pool in front of which is a bowed, segmental sun shelter. The shelter, in a neoclassical style, is flanked by extensive portions of Pulhamite rockery which extend to east and west forming the northern side of the cliff top path.

EXTERIOR: the sun shelter is set back from the cliff top path behind an approximately rectangular lawn which has one curved side. It has cement walls which are smoothly rendered in imitation of ashlar. Its south face is bowed and has a segmental colonnade of five bays divided by paired, baseless Tuscan columns supporting a full entablature. The two lateral bays were originally glazed. Above this is a parapet with a metal balustrade which rises higher at the centre and supports a shield showing a ram ridden by a child in low relief, apparently carved by Gilbert Bayes. At either end are rectangular pylons with a moulded bases and doorways (that to the right now blocked).

At either side of this feature, enclosing the rectangular lawn and then extending to east and west along the northern side of the path, are near-continuous rockeries of varying height enclosing planting troughs. These extend for approximately 103m to the east and 122m to the west and include flights of stairs rising from the cliff top path at each midway point. The land slopes from north to south and to the north of the sun shelter and at a higher level is a circular fountain pool with a flagged surround which dictates the crescent shape of the sun shelter. Low walling includes a curved bench on the northern side of the pool and the balustrade above the sun shelter includes the shield at its centre which is inscribed on this side with the words: 'WINTERSTOKE GARDENS / THESE GARDENS / WERE LAID OUT AND PRESENTED / TO THE BOROUGH OF RAMSGATE / BY / DAME / JANET STANCOMB-WILLS D.B.E. / IN / THE YEAR 1920 / AND OPENED TO THE PUBLIC / IN THE YEAR 1923 / UNDER THE MAYORALTY OF / ARTHUR W LARKIN ESQ. J.P. C.C.'

At a distance of approximately 40 and 45m to the north-east of the sun shelter are an outcrop of Pulhamite with a bench and a further bench and platform, and 60m to the south-west of the shelter is a five-sided pool with a fountain spout in the shape of a lion's mask above which is an urn and to the rear of which (facing west) is a

concrete bench. Both the pool and the urn have been filled in.

INTERIOR: the ceiling of the shelter has a shallow barrel vault which follows the curve of the building. The rear wall of the colonnade has a continuous bench with a moulded edge to the seat. To the centre, and to either side wall, are niches with arched heads. The central niche held a fountain and a sculpture of a ram jumping over a gate, also believed to have been carved by Gilbert Bayes, which was removed in about 1970.

Legacy

The contents of this record have been generated from a legacy data system. Legacy System number: 172051

Legacy System: LBS

Sources

Books and journals

English Heritage, , Durability Guaranteed Pulhamite rockwork - its conservation and repair, (2008), 28 Franklin, Geraint, Ramsgate; the Town and its Seaside Heritage, (2020), 111-113 Newman, J, The Buildings of England. Kent: North-East and East, (2013), 506

Legal

This building is listed under the Planning (Listed Buildings and Conservation Areas) Act 1990 as amended for its special architectural or historic interest.

End of official listing

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