Archaeological Monitoring of Works

on

the Upper Lighthouse Road (Area E),

Skellig Michael, Co. Kerry,

2020.

Ministerial Consent No. C000819,
Excavation No. E004885, Detection device licence No. R00463

ARCHAEOLOGICAL PROJECTS LTD
(Since 1989)

Alan R. Hayden
October 2020

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Introduction

This report describes the archaeological monitoring by the writer of works undertaken under Ministerial Consent on Area E of the Upper Lighthouse Road above the active lighthouse on Skellig Michael, Co. Kerry in August-September 2020 (fig. 1).

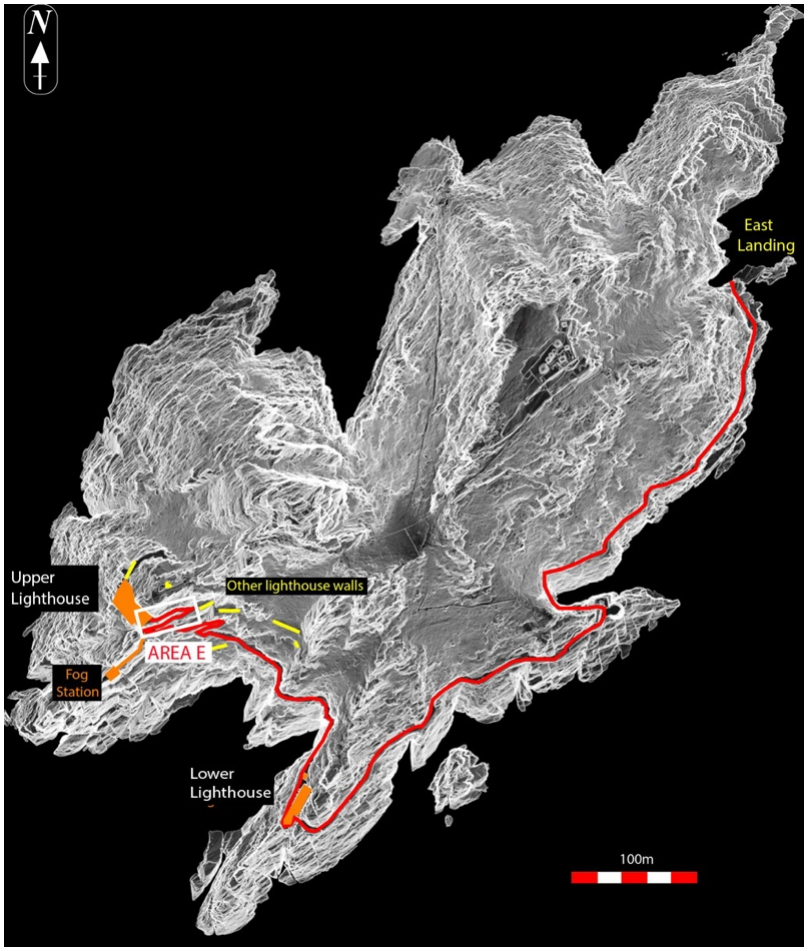

Fig. 1. Location of Area E (white rectangle) of the Upper Lighthouse Road (red).

The Lighthouse Roadway

The Lighthouse Roadway on Skellig Michael (fig. 1) was made by drilling and blasting a ledge out of the bedrock cliffs. The outer side of the road was supported and protected by a lime-mortar bonded wall, originally rendered on both sides. The inner edge of the road was defined by a band of vertically laid stones set transversely to the line of the road. The parapet wall and inner edging retained a fill of clay, small stones and rock debris. Much of the roadway up to the lower lighthouse was paved with stone (probably in the late nineteenth or early twentieth century) but the section between the two lighthouses does not appear to have been. The area between the inner edge of the road and the rising cliff was generally used as a lateral drain and was often floored with tightly packed, small vertically set stones, usually laid with their long axis parallel to the line of the road. Several large stone-lined and

capped drains carried water from this lateral drain across and under the roadway to rectangular outlets in the parapet wall.

The section of the road between the two lighthouses is known as the Upper Lighthouse Road and may have become largely obsolete in 1870 when the upper lighthouse was closed after the lighthouse on Inishtearaght became operational. It is not clear whether or not the dwellings close to the upper lighthouse were also abandoned at this stage. The road between the lighthouses however appears not to have been fully maintained afterwards.

A cast-concrete channel was laid down, most likely in 1914, to carry power from the lower lighthouse up to an automatic fog station on the high spur west of and above the roadway. From 1919 the fog station was operated manually, and the channel probably was no longer used. The concrete channel was generally constructed in the lateral drain adjacent to the stone edging on the inner side of the roadway.

There were two notable rock falls in November 1953 on the roadway between the lighthouses, in Areas B and C where the road is cut through thick glacial moraine deposits and where parts of the parapet wall collapsed on a number of occasions. Varying depths of material also built up on these and other sections of the lower part of the roadway. The upper part of the roadway, in contrast, has been heavily eroded by water since the original drainage became blocked. Other parts of the parapet wall on the lower sections of the roadway have also collapsed or been eroded and many of the capstones of the wall are missing on all sections of the road.

The lower lighthouse was automated in 1985-7 ending permanent occupation of the site.

2020 works

Areas A-D of the Upper Lighthouse Road were cleared of debris, excavated, recorded, conserved and reported upon in the 2017-2019 seasons of work. The final and highest part of the roadway, Area E, was cleared, excavated and recorded in 2020 and consists of four roughly straight sections of roadway linked by switchback turns (figs. 2-4).

The features revealed are described from the base of the Area upwards.

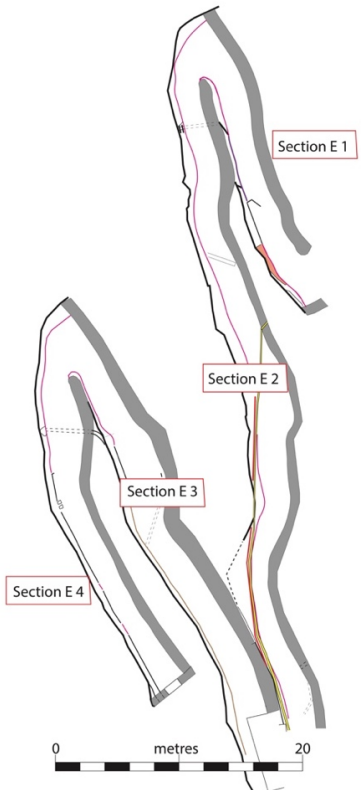

Fig. 2. Scaled sketch plan of the four sections of the Upper Lighthouse Road in Area E. The roadway extends upwards from Section 1 to Section 4.

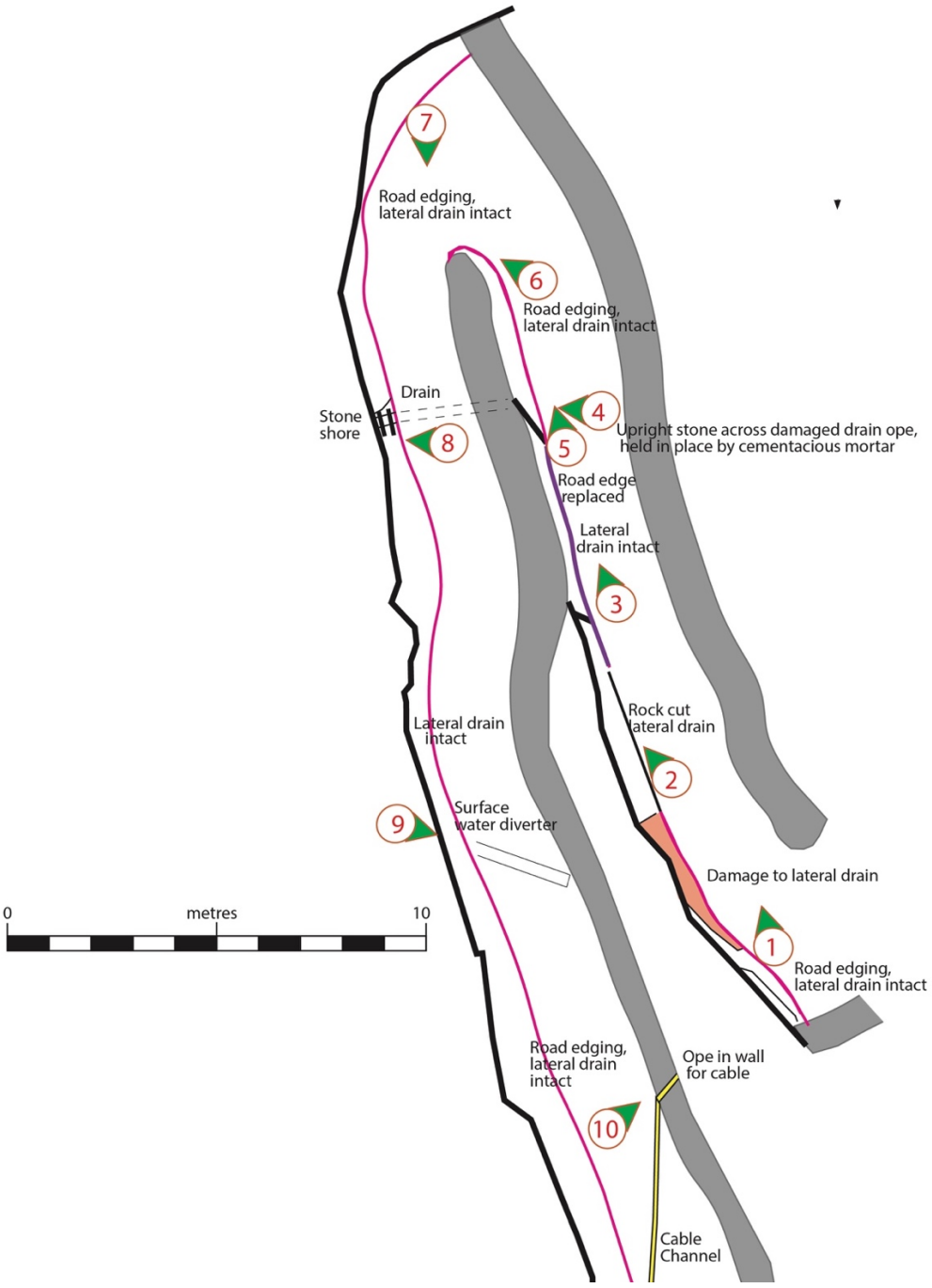

Fig 3. Scaled sketch plan of Area E, Section 1 (right) and the eastern (lower) half of Section 2 (left) excavated on the Upper Lighthouse Road in 2020, showing location of photograph nos. 1-10.

Section 1 (fig. 3, photos 1-6)

The lowest section of Area E extends upwards to the east. At its start, the road edging and lateral drain on its inner side are both are damaged in a few places with stones missing (photo 1). 6m from the west end of the Section, the lateral drain is completely rock cut and the underlying bedrock also forms the base of the inner edge of the roadway for a length of 5m or so (photo 2). Above this point the lateral drain is intact but the road edging appears to have been replaced as it lies at a slightly different level and is composed of fresher looking and less oxidised stone than usual (photo 3). The rebuilding may have coincided with alterations made to the opening of a large drain leading down from the Section 2 (photos 4 & 5). The base of the outer face of the parapet wall of Section 2, which formed the inner side of the Section 1 roadway here has cracked and moved outwards around the opening of

the drain, probably due to the blockage of the drain forcing water through the wall. A sandstone flag (of the type used to cap the parapet walls) was set upright and secured in place with cementitious mortar to divert water coming through the wall back into the lateral drain. Beyond the drain the road edging is intact and in good condition and curves around the east end of the parapet wall of Section 2 (photos 5 & 6). The lateral drain here is in excellent condition and after a length where the basal stones are conventionally set parallel to the line of the drain, there is a short length where they are set at right angles to their normal line before again changing to conventionally set stones where the drain narrows and extends around the corner of the parapet wall (photos 5 and 6).

The parapet wall on the outer side of Section 1 was in excellent condition apart from its extreme east end which had been almost totally demolished by falling rocks and had to be largely rebuilt after the fallen rocks were removed. This east end of this part of the wall contained a square drain ope leading away water from the lateral drain of Section 2. Some of the stone at the base of the opening of the drain was missing and will have to be repaired.

The road surface over much of Section 1 was deeply eroded and the top of the intact fill lies at a lower level than the original road surface. Much of the material currently filling the roadway is also deeply penetrated by campion roots and contains a lower percentage of stone fragments than elsewhere. As a result, it is soft underfoot and will be vulnerable to erosion and the regrowth of campion.

Section 2 (figs 3 & 4, photos 7-14).

Both the lateral drain and road edging were in excellent condition at the lower end of Section 2 (fig. 3, photo 7) but the road surface itself again lay below its original level. A disturbed stone shore led water from the lateral drain into a subsurface drain extending across the roadway and through the parapet wall (photos 7 & 8). This is the drain the lower end of which opens onto the inner side of Section 1 (photo 4). The stone shore (photo 8) is of similar construction to one previously revealed on Area A in 2017. Only two of the original four or five vertically set sandstone flags survived. The missing stones will have to be replaced to secure the surviving stones.

A surface water deflector composed of a narrow diagonally aligned band of vertically set stones survived intact further up Section 2 (photo 9). It diverted water flowing down the road surface into the lateral drain. Similar structures were previously revealed on Areas A and D of the roadway and it is possible that more of these structures may have originally existed on the roadway but were removed by the erosion of the road surface. The construction of more of these features on the steeper sections of the roadway might be considered as a method to hold the fill of the roadway in place.

The early twentieth-century cable channel ran down along the upper half of Section 2 in the lateral drain (figs. 3 & 4, photos 11 & 12) and at its lower end crossed the roadway and exited through a stone and brick-lined slot constructed in the parapet wall, about halfway up Section 2 (fig. 3, photo 10). As in other Areas where the cable channel was constructed, it was laid in a trench cut into the base of the lateral drain loosening the basal stones of the drain around the edges of the trench leading to further disturbance due to erosion of the base of the drain. (fig. 4 & photo 10). The construction of the cable channel in Section 2 also resulted in the removal of lengths of the original road edging (fig. 4 & photos 11 & 12).

Near the top end of Section 2 a sinuous and narrow cement-lined surface drain extended along the inside of the parapet wall before exiting through it via a rectangular outlet (fig. 4, photo 13). This drain appears to be of later date than the original construction of the roadway and may replace an earlier one.

At the upper end of Section 2 the mass concrete walls of a building and steps erected in the twentieth century (probably when the fog station was built or extensively rebuilt) replaced the parapet wall along the inner side of Section 2 -the outer side of Section 3 (photos 14 & 15). The surface of the roadway here in Section 2 was not cleared nor exposed, as a ramp had to be constructed on its surface to facilitate the passage of the motorised dumper used to transport materials during the works.

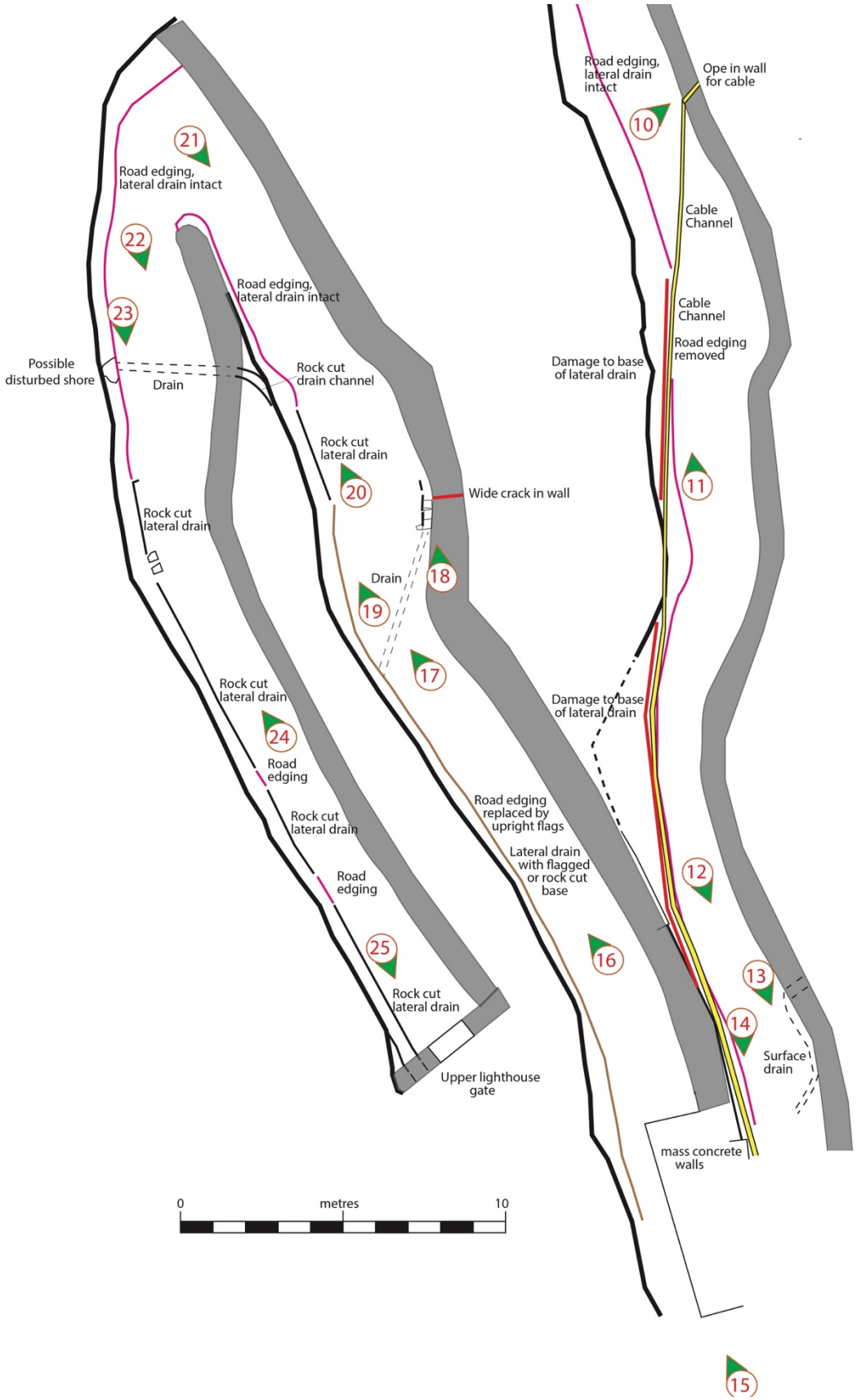

Fig 4. Scaled sketch plan of Area E, Section 2, upper half (right), Section 3 (centre) and Section 4 (left) excavated on the Upper Lighthouse Road in 2020, showing location of photograph nos. 11-25.

Section 3 (fig. 4, photos 16-21)

The western end of Section 3 was also not cleared for the aforementioned reason. A short length of the original road edging was visible at the start of this Section (photo 15) but over the majority it had been removed (probably when the mass concrete structures were erected). The edging was replaced by vertically set flagstones defining the side of a 300-400mm deep drain with either a bedrock or stone flagged base (photos 16, 17 & 19). The vertically set flags were not well anchored and a few fell over when the drain was cleared out, while others were loose. The poor construction of the side of the drain and its depth means that it is will be vulnerable to erosion and also presents a clear trip hazard. Its partial infilling with gravel or stone is likely to be required.

A subsurface, stone-walled and capped drain led water from a stone flagged surface drain inside the parapet wall into the later lateral drain about halfway up this section (photos 17 & 18). One of the capstones beneath the centre of the roadway was lifted so the drain could be cleaned out and was then replaced and re-covered. There was a wide and deep crack in the parapet wall where this drain began (fig. 4 & photo 18) and which will have to be repaired.

Beyond the reconstructed drain there was 3m-long section where the lateral drain was entirely rock cut and the exposed (and clearly quarried back) rock also formed the surface of the inner side of the roadway for a short length (photos 19 & 20). Here again it is clear that the surviving infilled surface of the roadway lies below its original finished level.

A rock cut channel led water down the rock face from a drain on Section 4 above into the rock cut length of the lateral drain on Section 3

From this point upwards both the original road edging and the lateral drain (initially rock cut but then with a stone lined base) survived intact and in excellent condition (photos 20-22).

Section 4 (fig. 4, photos 22-25)

Both the road edging and vertically set stone base of the lateral drain survived in excellent condition at the lower end of Section 4 of the roadway (photo 22). A subsurface stone-lined and capped drain led water under the road from the lateral drain to the rock cut channel mentioned above at the upper end of Section 3. There was an unlined and rough hole in the base of the lateral drain where the subsurface drain began (photo 23). Judging by the size of this hole it is possible that it originally held a stone shore similar to that revealed at the east end of Section 2 (photo 8). In the vicinity of the shore the road edging may either have been built originally as horizontal masonry or may have been replaced by the surviving stonework; it is not clear which.

Above this point the road edging and lateral drain were generally rock cut with the quarried back rock also forming sections of the road surface (photo 24). There were short lengths of vertically set stone edging inserted where there would originally have been gullies in the rock, deeper than the finished road surface (fig. 4).

At the upper end of this Section the rock cut lateral drain narrowed and extended beneath the walling of the gate into the Upper Lighthouse. The gateway is in very poor condition having largely collapsed due to the movement of its outer side. It is to be repaired in the future.

Conclusions

Archaeological works have now largely been completed on the Upper Lighthouse Roadway. There is but a short length of the road at the junction of Sections 2 and 3,which still has to be cleared and recorded.

The conservation issues identified previously on Sections A-D also apply on Section E. These include:

-conservation of the stone lined base of the lateral drain, especially where it has been cut through by the construction of the cable channel,

-clearance and maintenance of the lateral and subsurface drains,

-repair of the stone shores in the lateral drain,

-repair of the road edging in places,

-what to do with the cable channel,

-build up and stabilization of the road surface. As mentioned above the construction of more surface water diverters of the type revealed on the roadway might be a method both to control water flow and to aid holding the infill on the roadway in place.

In addition, in Area E the following also need attention:

-the collapsed outer face of the parapet wall where the drain exits through it at the top of Section 1,

-the partial infill of the deep and rebuilt lateral drain on the lower half of Section 3,

- the wide crack in the wall on Section 3.

Photographs

Photograph 1. Section E, looking east. Intact road edging with damaged section by ranging rod and damaged lateral drain base at left. Surviving surface of roadway below original level.

Photograph 2. Section E1 looking east. Rock cut lateral drain, with replaced road edging beyond ranging rod.

Photograph 3, section E1 looking east. Replaced road edging and intact lateral drain base. Surviving road surface below original level.

Photograph 4, section E1 looking north. Partly collapsed base of parapet wall with drain exit and inserted vertical stone secured with cementitious mortar. Rebuilt road edging at left, original at right.

Photograph 5, section E1 looking east. Replaced road. Edging at front, partly collapsed base of parapet wall and inserted vertical stone with original road edging and intact lateral drain behind, note stones in base of lateral drain laid at right angles to its line at back.

Photograph 6, section E1 looking north. End of parapet wall with lateral drain curving around it. Note change in alignment of stones in lateral drain.

Photograph 7, section E2 looking west. Well preserved road edging and lateral drain. Road surface below original level. Shore (see photograph 8) in lateral drain at right.

Photograph 8, section E2 looking north. Stone shore (several stones missing) in lateral drain, overlying subsurface drain.

Photograph 9, section E2 looking south. Surface water diverter.

Photograph 10, section E2 looking southeast. Slot in parapet wall for cable with cable channel in foreground.

Photograph 11, section E2 looking east. Cable channel cut through base of lateral drain, gaps in base of lateral drain and road edging removed in foreground.

Photograph 12, section E2 looking west. Removed and intact road edging with lateral drain cut by cable channel at right and surface drain (to left of ranging rod. Mass concrete wall and modern bird-nesting wall in background.

Photograph 13, section E2 looking west. Surface drain inside parapet wall.

Photograph 14, section E2 looking west. Cable channel at base of mass concrete wall topped by modern bird-nesting wall.

Photograph 15, section E3 looking east. Short length of intact road edging in foreground. Mass concrete walls with road edging replaced by vertically set flags at back left.

Photograph 16, section E3 looking east. Original road edging replaced by vertically set flags and flagstone base of lateral drain.

Photograph 17, section E3 looking east. Opening of subsurface drain into lateral drain at left and surface drain at right (see photograph 18). Replaced road edging in foreground with rock cut lateral drain and original road edging in background.

Photograph 18, section E3 looking east. Surface drain inside parapet wall. Note large crack in parapet wall.

Photograph 19, section E3 looking east. Original road edging replaced with vertically set flags, rock cut base of lateral drain, original road edging in background.

Photograph 20, section E3 looking east. Rock cut lateral drain in foreground, original road edging and intact set stone base of lateral drain behind.

Photograph 21, section E3 looking west. Road edging and lateral drain curving around parapet wall, road surface slightly below original level.

Photograph 22, section E4 looking west. Intact road edging and lateral drain, with disturbed shore / drain ope by ranging rod (see photograph 23).

Photograph 23, section E4 looking west. Subsurface drain opening, possibly originally holding stone shore and intact set stone base of lateral drain, rock cut base in background. Note possibly rebuilt road edging.

Photograph 24, section E4 looking east. Exposed rock at road surface and rick cut lateral drain.

Photograph 24, section E4 looking west. Rock cut lateral drain narrowing and extending beneath gate of Upper Lighthouse.