



AGENDA

Kent County Council

REGULATION COMMITTEE MEMBER PANEL

Monday, 22nd February, 2016, at 3.00 pm
Gatefield Hall, Alexander Centre, 20-22
Preston Street, Faversham ME13 8

Ask for: **Andrew Tait**
Telephone **03000 416749**

Tea/Coffee will be available 15 minutes before the meeting

Membership

Mr S C Manion (Vice-Chairman in the Chair), Mr T A Maddison, Mr L Burgess,
Mrs V J Dagger and Mr J N Wedgbury

UNRESTRICTED ITEMS

(During these items the meeting is likely to be open to the public)

1. Membership and Substitutes
2. Declarations of Interest by Members for items on the agenda
3. Proposed part extinguishment of Public Footpath ZF5 at Faversham Reach Estate and creation of a Public Footpath beside Faversham Creek linking Public Footpath ZF5 at Crab Island with Public Footpath ZF32 at Ham Marshes (Pages 3 - 200)
4. Other items which the Chairman decides are Urgent

EXEMPT ITEMS

(At the time of preparing the agenda there were no exempt items. During any such items which may arise the meeting is likely NOT to be open to the public)

Peter Sass
Head of Democratic Services
03000 416647

Friday, 12 February 2016

From: Director of Growth Environment and Transport

To: Regulation Committee Member Panel 22 February 2016

Classification: Unrestricted

Summary: A report seeking a decision from the Regulation Committee Member Panel on whether to:

a) Make concurrent but independent Orders for the part extinguishment of Public Footpath ZF5 at Faversham Reach Estate and creation of a public footpath beside Faversham Creek linking Public Footpath ZF5 at Crab Island with Public Footpath ZF32 at Ham Marshes.

Background.

1.0 On 21 November 2012 a Panel of the Regulation Committee considered a report from the Head of Regulatory Services, recommending the diversion of a long obstructed public footpath, ZF5, at Faversham Reach. The footpath is obstructed by a wall (formerly the boundary to a shipyard) and by five residential properties within the Faversham Reach Estate, an estate built on the former shipyard site in 1987.

1.1 Members were asked to consider two proposals, one recommended by the Public Rights of Way Officer dealing with the case, submitted by the Faversham Town Council, seeking the diversion of the footpath to an unobstructed alignment providing some creek side access within the Faversham Reach Estate. The Faversham Reach Residents Association advanced a different proposal involving the extinguishment of the public footpath where it crossed the estate and the creation of a public footpath outside, and following, the boundary wall to the estate. This path had existed on the ground and been in use since 1938 when the shipyard wall was built.

1.2 Members viewed the proposals and heard evidence from all of the parties involved and decided that the Residents Associations proposals should be taken forward.

1.3 In December 2012, the PROW and Access Service made the extinguishment and creation Orders, reflecting the Member Panel decision. Objections to the Orders were received, as anticipated, and the Orders were subsequently submitted to the Secretary of State for decision. The Secretary of State held a Public Inquiry at Faversham from 20 - 23 May 2014 to consider the Orders. The Inspectors decision on behalf of the Secretary of State was received on the 2 July 2014. The Inspector concluded that neither

the creation Order nor the extinguishment Order should be confirmed on the basis that:-

- The creation Order route was of longstanding and was in effect an existing public highway.
- The extinguishment Order route would be likely to be well used in the future if the obstructions to the route are discounted. As a matter of policy, even obstructions such as houses are considered to be temporary circumstances.

In her conclusions the Inspector also stated that: “there appears to be no reason why it would not be feasible to divert the route from beneath the houses”

The Inspectors decision is provided as **appendix A**.

The decision was not challenged.

1.4 Public Footpath ZF5 remains obstructed; clearly an unsatisfactory situation for both the residents whose properties are affected and members of the public who wish to use it.

1.5 In June and July 2015 the County Council consulted on a number of options for the resolution of this long standing obstruction. The consultation documents are provided as **appendix B**.

1.6 In addition Amey, the County Council’s engineering consultant were tasked with providing a detailed feasibility report for the construction of ramps and a cantilever walkway including outline options for construction with indicative costings. This work was necessary both to respond to points raised in response to the consultation and to enable the County Council to reach an informed decision. The report is provided as **appendix C**.

1.7 The Public Rights of Way and Access Service preferred option, Option1, proposed the diversion of the obstructed length of Public Footpath ZF5 to run beside Faversham Creek, through Faversham Reach and Waterside Close Estates. Option 1 would require the construction of two ramps to provide access to the estates and a cantilever walkway to provide safe access around a slipway.

1.8 73 responses were received to the consultation, 35 in support of Option 1, 38 objecting to it. Little response was received in respect of:

- Option 2, a proposal previously submitted by Faversham Town Council and considered by the Regulation Committee Member Panel in November 2012.
- Option 3 a diversion within Faversham Reach Estate providing some creek side access. One response proposed a similar solution by diverting within the estate but providing no creek side access.

A detailed summary of the responses received and the PROW and Access Service position on them is provided as **appendix D**.

1.9 It is evident from the response to the consultation that any form of order made to divert, extinguish or create rights to overcome the current obstruction would receive objections and representations and therefore have to be referred to the Secretary of State for decision; inevitably requiring a further Public Inquiry.

1.10 Simply allowing the current position to continue cannot be considered an option as:

- Properties remain blighted,
- The public are unable to access a recorded public right of way,
- The County Council fails to meet its statutory obligations and is at risk of further action in the courts and Local Government Ombudsman Complaint.

Conclusion

2.0 In reaching a conclusion on how best to secure the resolution of this matter, taking account of the feedback received to the consultation the Public Rights of Way and Access Service has concluded that Option 1 should be implemented for the following reasons:

- It resolves the longstanding obstruction to access through Faversham Reach Estate.
- It resolves issues of blight in respect of the 5 properties that obstruct the public footpath.
- It delivers the creek side access identified within the Street Scape Strategy and emergent Neighbourhood Plan.
- It addresses the longstanding failure to deliver creek side access through a section 106 agreement at Waterside Close.
- It provides access that most closely reflects the Government's desire to provide access around the coast of England on foot.
- It discharges the County Council's statutory obligations.

2.1 A technical point was raised in response to the consultation in respect of potential hurdles to the use of a public path diversion order to deliver the creek-side access. Specifically it is thought that it may be difficult to satisfy the test set out in the Highways Act 1980 section 119 (2)(b) "A public path diversion order shall not alter a point of termination of the path or way – (where it is on a highway) otherwise to a point which is on the same highway, or a highway connected with it, and which is substantially as convenient to the public."

2.2 The Public Rights of Way and Access Service accepts this view and having given further consideration to the form of order has concluded that Option 1 could be secured through the making of concurrent but independent orders for the creation of creek side access and the partial extinguishment of Public Footpath ZF5. The legislation, tests to be applied and other relevant considerations are set out in **appendix E**. A plan showing the effect of the two proposed Orders is provided as **appendix F**.

Recommendation

3.0 Make concurrent but independent orders for the part extinguishment of Public Footpath ZF5 at Faversham Reach Estate and creation of a public footpath beside Faversham Creek linking Public Footpath ZF5 at Crab Island with Public Footpath ZF32 at Ham Marshes.

Contact Officer: Graham Rusling, Public Rights of Way and Access Manager.
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Mr N Westaway
c/o Public Rights of Way and
Access
Kent County Council, County Hall
Invicta House
Sessions Square, Maidstone
ME14 1XX

Your Ref:

Our Ref: FPS/W2275/6/4 & 3/12

Date:

01 JUL 2014

Dear Sir

HIGHWAYS ACT 1980 SECTION 26

Kent County Council

WILDLIFE AND COUNTRYSIDE ACT 1981 SECTION 53

(Public Footpath ZF42, Faversham)

Public Path Creation and Definitive Map and Statement Modification Order 2012

&

(Public Footpath ZF5 (Part) Faversham) Public Path Extinguishment Order and Definitive Map and Statement Modification Order 2012

I enclose for your information a copy of the Inspector's decision on these Orders following the Inquiry on Tuesday 20 May 2014.

Also enclosed are two leaflets entitled *Our Complaints Procedure* and *Challenging the Decision in the High Court*.

If you have any queries about the enclosed decision, please contact the Quality Assurance Unit at the following address:

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The Planning Inspectorate
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Temple Quay House
2 The Square
Temple Quay
Bristol
BS1 6PN

Tel: 0303 444 5502 5884

<http://www.planningportal.gov.uk/planning/appeals/planninginspectorate/feedback/>

An electronic version of the decision will shortly appear on the Inspectorate's website.



Yours faithfully

Clive Richards
(Rights of Way Section)

Despatch 1

Order Decisions

Inquiry opened on 20 May 2014

Site visits made on 19 and 22 May 2014

by Alison Lea MA (Cantab) Solicitor

an Inspector appointed by the Secretary of State for Environment, Food and Rural Affairs

Decision date: 01 JUL 2014

Order Ref: FPS/W2275/6/4 – the Creation Order

- This Order is made under Section 26 of the Highways Act 1980 (the 1980 Act) and is known as the Kent County Council (Public Footpath ZF42, Faversham) Public Path Creation and Definitive Map and Statement Modification Order 2012.
- The Order is dated 21 December 2012 and proposes to create a public right of way as shown on the Order plan and described in the Order Schedule.
- There were 31 objections outstanding at the commencement of the inquiry.

Summary of Decision: The Order is not confirmed

Order Ref: FPS/W2275/3/12 – the Extinguishment Order

- This Order is made under Section 118 of the Highways Act 1980 (the 1980 Act) and is known as the Kent County Council (Public Footpath ZF5 (Part) (Faversham) Public Path Extinguishment and Definitive Map and Statement Modification Order 2012.
- The Order is dated 21 December 2012 and proposes to extinguish the public right of way shown on the Order plan and described in the Order Schedule.
- There were 31 objections outstanding at the commencement of the inquiry.

Summary of Decision: The Order is not confirmed

Preliminary and Procedural Matters

1. I carried out an unaccompanied site inspection prior to the opening of the inquiry. At the request of the parties I carried out a further site inspection during the inquiry accompanied by representatives from all main parties.
2. Faversham Town Council, the Faversham Society, the Faversham Creek Consortium, the Faversham Municipal Charities and Bensted's Charity (the Joint Objectors) made a number of legal submissions. These include that the Creation Order is incapable of confirmation as the route the subject of the Order is already a public right of way.
3. The Joint Objectors also state that the effect of the Orders is to extinguish one right of way and create another length between the same points. Accordingly it is submitted that the proposal amounts to a diversion and section 119 of the 1980 Act should have been used, rather than sections 26 and 118 of that Act.
4. I shall deal with these submissions before considering whether the tests in sections 26 and 118 of the 1980 Act are met. First, however, I shall set out the background to the making of these Orders.

Background to the Orders

5. Public Footpath ZF5 was added to the Definitive Map as part of a review in accordance with the National Parks and Access to the Countryside Act 1949 which enabled authorities to produce a revised Definitive Map by adding any rights of way omitted from the previous map and showing any changes. It was added at the 1970 Draft Review Stage and no objections were received to its inclusion. That review was partly abandoned due to the introduction of the duty to keep the definitive map under continuous review. However, effect was given to changes on the revised draft map to which there had been no objection. Public footpath ZF5 is shown on the consolidated Definitive Map and Statement with a relevant date of 1 April 1987.
6. Public Footpath ZF5 is about 1450m long and runs from Crab Island, along Faversham Creek (the Creek), through a housing estate known as Faversham Reach, within which it turns away from the Creek, passes close to a light industrial area and then heads across agricultural land. Behind the industrial area it meets Footpath ZF1 which follows the boundary of that area until it meets Footpath ZF32 which heads back towards, and then follows, the Creek. The section of the path within Faversham Reach (approximately 198 metres) is partly obstructed, in particular by a concrete wall and five houses (Nos 2, 3, 13, 14 and 15).
7. Kent County Council (KCC) received a number of applications. The first was from Faversham Town Council who applied for an order to divert that part of ZF5 located within Faversham Reach to an alternative route also within Faversham Reach but avoiding the houses (the Proposed Diversion Route). Applications were subsequently submitted by the Faversham Reach Residents Association (FRRA) to extinguish the part of ZF5 through Faversham Reach (the Extinguishment Order Route) and to create a route to the rear of Faversham Reach (the Creation Order Route).
8. A report by the Corporate Director of Customer and Communities to the Kent County Council Regulation Committee on 21 November 2012 (the KCC Report) considered all of the applications and recommended that an order be made under s119 of the 1980 Act to divert the obstructed part of ZF5 in accordance with the Faversham Town Council application. However KCC's Members Panel resolved not to make such an order and to make an extinguishment order under S118 and a creation order under s26 as applied for by the FRRA. It is those orders which are now before me.

Legal Submissions

9. KCC accepts that the Creation Order Route appears to have been in use by the public since as early as 1937 and that it has been promoted as the route of the Saxon Shore Way, a long distance coastal path, since around 1980. In December 2013 an application to modify the Definitive Map and Statement by adding the Creation Order Route was submitted by Faversham Town Council and KCC states that there is little doubt that the requested order would be made. Nevertheless KCC submitted in evidence that there would be a residual benefit in confirming the Creation Order. In particular in its opinion it would remove any uncertainty about the status of the route and would ensure that the route would be recorded as a highway maintainable at public expense. The latter would mean that the public would benefit from the Council's

management and maintenance of the way, as well as removing any uncertainty over potential liability resulting from its use.

10. The land over which the route passes is owned by the FRRA. At the inquiry, Mr Albery, representing the FRRA, confirmed that residents had done nothing to prevent use of the route, had given consent for works to be carried out to it and would be happy to dedicate the route. KCC accepted that any residual uncertainty as to status or ongoing maintenance was therefore diminished.
11. Nevertheless KCC submit that the Order may be confirmed if the tests in s26 of the 1980 Act are met; namely that there is a need and it is expedient to confirm the Order. Reference is made to Order decision Ref: B6855/W/2011/515568 in which the Inspector stated "where there remains doubt over the status of the claimed way, I accept there **may** be circumstances where it is expedient...to utilise the provisions in Section 26 of the 1980 Act whether that in truth creates something new or merely formalises a pre-existing arrangement". However, the Inspector also stated that "the process of creating a right of way is nonsensical if the proposed right already exists. The essential question is whether there is sufficient proof that it does".
12. In that case, no application had been made for a definitive map modification order in relation to any of the approximately 5 miles of routes to be created and the Inspector found that "clarification of the public's pedestrian rights over the Order routes will be a significant benefit". She also added that if some routes already carried public footpath rights, formal recognition would add to the enjoyment of the wider public as the routes would appear on published maps and their availability would be better publicised. That is far from the case here where the Creation Order route is signposted as part of a long distance walking route and there seems little doubt that a modification order will soon be made and confirmed.
13. In *R v The Lake District Special Planning Board ex parte Bernstein 1982* (Bernstein), it was held that a new route cannot be created by means of a diversion order if that new route is already a public right of way. KCC accepts that the reasoning in that case applies equally to creation orders. Although it is pointed out that Bernstein related to an alternative route that was already a formal public right of way, it would seem illogical to conclude that it did not apply in this case where there is no reason to doubt that the right of way exists and will be added to the definitive map and statement. This therefore means that a new route cannot be created in the circumstances of this case. The residual benefits which KCC suggests exist do not alter this position and I therefore conclude that the Creation Order should not be confirmed.
14. The Joint Objectors also submit that it was misleading to give the elected members of the Panel the impression that the Creation Order would create something new in exchange for the extinguishment of part of footpath ZF5. However, the basis on which KCC's Members Panel made its decision is unclear from the minutes of the meeting and I have no way of knowing the extent to which the decision to make the Extinguishment Order may have been dependant upon the making of the Creation Order. In any event, the Extinguishment Order has been made and I will determine whether or not to confirm it by considering the tests contained in S118 of the 1980 Act.
15. Given my decision not to confirm the Creation Order it is not necessary to consider further the submissions with regard to the circumstances in which it

may be appropriate to make concurrent creation and extinguishment orders rather than a diversion order under S119 of the 1980 Act.

The Extinguishment Order (EO)

The Main Issues

16. The Order is made under S118 of the 1980 Act. The requirements of this section are that, before confirming the Order, I must be satisfied that it is expedient to stop up the right of way having regard to
- (a) the extent, if any, to which it appears that it would, apart from the Order, be likely to be used by the public; and
 - (b) the effect which extinguishment would have as respects land served by the path.

When considering these requirements I must disregard any temporary circumstances preventing or diminishing the use of the right of way. The 1980 Act also requires me to have regard to any material provisions in the rights of way improvement plan for the area.

17. The use of the word "expedient" means that I may take into account considerations other than those specifically set out in the 1980 Act and I note the judgement in *Ashbrook v ESCC* where Grigson J interpreted the word "expedient" as meaning "suitable and appropriate" in accordance with the dictionary definition. In *R v Secretary of State for the Environment, ex parte Stewart (Stewart)*, Phillips J stated that expedient must mean that "to some extent at all events, other considerations can be brought into play besides user. The judgment as to whether or not it is expedient to stop up a path is bound to be of broad character".
18. The Order was made because it appeared to KCC that the EO Route was "not needed for public use". However, although that was a matter of foremost importance for KCC when it decided to make the Order, and falls within the broad character of expedience, in considering whether to confirm the Order it is the likely use of the path in the future that I am required to consider.

Reasons

The extent to which it appears that the route would, apart from the Order, be likely to be used by the public

19. KCC submits that historically there has been very limited, if any, use of the EO Route and that there will be no use of the route by the public in the future due to the obstructions, which in its view cannot be disregarded as temporary. It also submits that even without those obstructions use would be limited due to the existence of an alternative route, namely the Creation Order Route, and that even if the EO Route was diverted within Faversham Reach, there would be little use of that route.

Evidence of Use of the EO Route prior to the construction of Faversham Reach

20. It appears that historically there was a towpath running the length of the Creek from Crab Island. In 1916 Pollock's Shipyard opened and the definitive map shows footpaths ZF1 and ZF5 leaving the Creek side and running alongside the concrete wall which formed the boundary of the shipyard. In 1938 Pollock's

shipyard was extended in to the area crossed by footpath ZF5. Although the concrete boundary wall was also extended, the Joint Objectors state that access to footpath ZF5 was still possible due to the presence of a gate at the end of the concrete wall adjacent to a corrugated iron fence. Mr Osborne and others state that the gate was requested by the Faversham Navigation Commissioners and local bargeman so that the towpath was not obstructed. A photograph has been produced which shows the gate and I accept that it appears to be either on or close to the definitive line of footpath ZF5.

21. Mr White gave evidence that when he was a boy he and his friends would ask Mr Meadows, the resident caretaker at the shipyard, to open the gate. Sometimes they would drag a piece of wood along the corrugated iron to attract his attention. Mr White states that the caretaker would reluctantly open the gate and instruct them to stick to the path, which ran along the Creek side and then through the shipyard to the main gate. Mr Gardner also gave evidence that he was occasionally able to get through the gate "by luck".
22. In a statement of truth submitted in writing to the inquiry, George Juniper who worked at the shipyard from 1950 to 1956 and from 1958 until it closed in 1970, states that he recalls being occasionally ordered by the foreman fitter to unlock the gates to allow a walker to "assert his rights" to walk along the tow path through the yard and that the walker climbed over the slipways that crossed the path. His evidence is supported by a similar statement from Dorothy Smith, who lived in the caretaker's house at the shipyard from 1964 until 1987 and whose late husband was employed at the shipyard until it closed in 1970. However a later letter from her contradicts her statement and states that the gates were always kept locked and that there was no public access to this area before Faversham Reach was built. I have also been provided with letters from a number of former employees of Pollock's shipyard which state that the gates were kept locked and that members of the public were not allowed access.
23. Mr Maloney, who has researched and produced a film about the shipyard, provided extensive photographic evidence of the heavy industrial activities carried on at Pollock's shipyard. It appears that the southern part of the landholding crossed by ZF5 was used less intensively than other parts, and in particular one of the photographs shows an area of land between the Creek and the lighters under construction where it may have been possible to walk. Nevertheless given the industrial activity it is difficult to see how the definitive line of ZF5 could have been used by the public with any regularity. Mr Osborne acknowledges that access was prohibited during the Second World War and that after that the path fell into disuse apart from "some walkers anxious that the right of way should not be lost". On the evidence before me it seems likely that any public use of the definitive line of this part of ZF5 was very limited during the time the land was used as a shipyard.
24. Mr Cosgrove gave evidence that after the shipyard closed, the area was cleared and he used to walk the route of ZF5. He produced a photograph which, although undated, shows that the area was grassed. It appears from the photograph that it would have been possible to walk the route during at least some of the period following closure and before the construction of Faversham Reach. Mr White states that after the shipyard closed the area was neglected and it was possible to walk through whenever he wished.

25. I note however, that when the Saxon Shore Way was promoted in around 1979 it was routed along the Creation Order Route away from the Creek. I agree with KCC that if there had been regular use of the EO Route at this time it is unlikely that it would have been excluded from the Saxon Shore Way. Indeed the KCC report states that from a site visit at the time it was noted that ZF5 was obstructed and Mr Osborne described the EO Route as "not easily walkable" at that time.
26. Furthermore I also agree with KCC that it is likely that more would have been done during the planning process for Faversham Reach if there had been more than occasional use of the EO Route during this period. In fact there is no mention of ZF5 in any of the planning documentation. I acknowledge that Mr Osborne and Mr Cosgrove state that they were satisfied from the plans submitted with the application that provision for a Creek side footpath would be made and that it was not therefore an issue which would have been apparent from the minutes of meetings. However, although the plans could be interpreted as showing a footpath along the Creek, and indeed there is space between the Creek and the houses as constructed, none of the plans before me clearly shows a public footpath connecting with the wider network. Furthermore, it is clear from the plans that the definitive line would be obstructed by the development and no action was taken to divert the EO route.

Evidence of use of the EO Route post the construction of Faversham Reach

27. The definitive line of ZF5 has been obstructed by houses since Faversham Reach was constructed. Nevertheless there does appear to have been some limited use of parts of the route, particularly before 2003. Mr White described using logs or a milk crate to access the concrete ledge at the edge of the estate adjacent to No 15 with his children or grandchildren and Mr Cosgrove also referred to obtaining access by using a pile of logs or timber. From my site visit it was apparent that obtaining access to the ledge in that manner would not be particularly difficult and although the ledge is not on the definitive line, it would have been possible to join the EO Route along the marina from this point.
28. However, using the ledge to access the area between the houses and the Creek would have become impossible after 2003 when railings were erected. Although prior to this date there appears to have been a wooden board in the location of the railings, it does not seem to have prevented access. In particular I note that it was not recalled by Mr White and is described by FRRA in the planning application for the railings as "ineffective". The application refers to the railings being required in order to prevent unauthorised access and reference is made to vandalism and access by children. There is however nothing to suggest that people were accessing Faversham Reach to try to walk the EO Route. It seems to me that although there may have been access to parts of the EO Route prior to 2003, use of it as a through route will have been limited. Any access subsequent to that date will have been through the main Faversham Reach entrance and, even with deviations, it will not have been possible to use ZF5 as a through route.

Evidence of likely future use

29. I agree with KCC that it appears that there has been little public use of the EO Route since 1938. However, although I accept that evidence relating to historic usage may be relevant in considering likely future use, it is not necessarily

conclusive. This is particularly the case where, as in this situation, the route has been subject to a variety of obstructions over the years, and although on the definitive map, use of the route has clearly not been encouraged.

Furthermore, although it can be argued that the path is not needed due to their being an adequate alternative available (the Creation Order Route), the path may still be used in the future simply because people prefer it. Indeed the Joint Objectors submit that if the EO were made available it would be used to a significant extent, in preference to the Creation Order Route.

30. The question therefore arises as to whether the EO route could be made available for future use. In considering likely future use I am to disregard temporary circumstances preventing or diminishing use of the path. In this case KCC submit that the obstructions, in particular, the houses, are not temporary and cannot be disregarded and therefore that future use of the EO route will be nil.

Temporary Circumstances

31. In *Stewart*, Phillips J stated that "the expression "temporary circumstances" entitles one to have regard to a wide variety of considerations, but obviously the prime question is, in the case of an obstruction, whether it is likely to endure. Now, it may by its nature, be temporary, or it may by its nature, seem to be permanent, but if it appears, in the case of what seems to be a permanent obstruction, that it is likely to be removed, I now see no reason why it could not be regarded as temporary".
32. He went on to consider the difficulties of "allowing obstructions... to count to any substantial extent as reasons for making a stopping up order. Were it not so, it would mean the easiest way to get a footpath stopped up would be to unlawfully obstruct it, and that cannot be the policy of the section. Therefore it seems to me that only rarely can it be right to make an order stopping up a highway on the ground that as a result of an unlawful obstruction, or as a result of doubt as to the line of the highway, it is difficult to use it".
33. He found that a tree and an electricity sub station which were obstructing a path were a "temporary circumstance". With regard to the sub-station he stated that "it seems to me impossible for there to be any justification for it remaining where it is".
34. It seems to me that although the concrete wall has been in place for many years, there can be no justification for it continuing to obstruct a public right of way and it should therefore be considered as a temporary circumstance. The 5 houses have been described as "lawful" but this appears to be a reference to the fact that they have been granted planning permission. Such permission does not give authority to obstruct a public right of way and it is possible that legal action could be taken and may be successful in securing their removal.
35. I note that no-one has suggested that the taking of such legal action would be an appropriate course of action. Indeed a number of objectors state that removing the houses would be disproportionate and there is a clear willingness on the part of all the objectors to see alterations to the alignment of the EO Route so that it can co-exist with the houses. The Joint Objectors define the arguments before me as should the length of path be closed or should it be retained with a diversion from under the 5 houses that have been built on it.

36. In these circumstances it is difficult to conclude that the houses will not endure. However Phillips J did not consider a situation where the reason that the buildings may endure is because it is considered preferable to remove the path from under the buildings rather than to seek to demolish the buildings. Phillips J also states that "only rarely" can it be right to stop up a highway as a result of an unlawful obstruction. Whilst acknowledging Mr Rusling's opinion that this is an unusual, possibly exceptional case, KCCs draft revised Rights of Way Improvement Plan (known as the Countryside and Coastal Access Improvement Plan) states that "a significant number of routes are obstructed by buildings (including residential property) that were constructed in the absence of an order for the diversion or extinguishment". It seems to me that this is therefore not a rare or exceptional case. Mr Rusling accepted that if the EO is not confirmed KCC will have a duty to resolve the issue and in his view would be obliged to seek to move the path from under the houses.
37. Circular 1/09 refers to temporary circumstances as "including any buildings or other structures preventing or diminishing the use of the way" and I see no reason why that advice should not be followed in this case. To the contrary, to consider the likely future use of the EO route as nil due to the fact that objectors would prefer to see an alteration to the line of the route to avoid the houses rather than the demolition of the houses would seem to me to be contrary to the policy of the section. I agree with the Joint Objectors that the feasibility of alterations to the EO route so that the route and houses can co-exist is a factor to be taken into account in determining what weight should be given to the presence of unlawful obstructions on the route.
38. Although no diversion order has been made, I heard evidence with regard to 2 possible routes within Faversham Reach which would remove the route from beneath the houses and I see no reason why, in considering likely future use, I should not take these alternative routes into account.

Alternative routes

39. The Proposed Diversion Route would involve the construction of a ramp with a proposed gradient of 1 in 12 from Crab Island. The ramp would enter Faversham Reach in an area currently used for parking and the route would then pass Nos 13 to 15, before heading towards the Creek to follow the definitive line along the marina, then turn away from the Creek to pass Nos 2 and 3 before heading along the definitive line towards the entrance to Faversham Reach.
40. KCC's Members Panel resolved not to make an Order in respect of that route. Although the reasons for that decision are unclear from the minutes of the meeting, at the inquiry it was suggested that providing the route may not be straightforward. In particular reference was made to the possibility of consent being required under S38 of the Commons Act 2006 in relation to the ramp due to it being work on a village green. It is also suggested that safety railings may be necessary along the marina and that the cost of the diversion would be significant. However, these are all matters which were considered in the KCC Report which recommended that an order for the Proposed Diversion Route should be made and no evidence has been presented which would lead me to conclude that such a diversion would not be feasible.
41. The Faversham Creek Streetscape Strategy (the Streetscape Strategy) refers to the "possibility of making a connection between the path on Crab Island and

the Faversham Reach/Waterside Close quayside path, for public access". The work referred to includes a ramp which would connect with the area between Nos 13 to 15 and the Creek (to which the public do not have access) and then connect to the EO Route along the marina. The aspiration is that the route, rather than following the EO Route away from the Creek, would pass between Nos 2 and 3 and the Creek, connect with Waterside Close and then, via a further ramp at the far end of Waterside Close, connect with ZF32 to form a continuous Creek side footpath. The document has been adopted by Faversham Town Council, Swale Borough Council and the Swale Joint Transportation Board, which includes KCC, and its recommendations are incorporated in the pre-consultation draft Faversham Creek Neighbourhood Plan (the Neighbourhood Plan).

42. An agreement made under Section 106 of the Town and Country Planning Act (the S106 Agreement) relating to Waterside Close contains a footpath creation agreement which would provide a public path along the front of the Waterside Close development and I have been provided with a copy of a letter which confirms that the relevant landowner has no objection to the creation of a link from ZF32 to Waterside Close, including a walkway structure. However, there is no guarantee that the S106 Agreement remains enforceable or that it would be enforced and it does not provide a mechanism for joining that route with the wider network.
43. There is no certainty that the continuous Creek side route aspired to in the Streetscape Strategy and draft Neighbourhood Plan will ever be achieved. Nevertheless there is no evidence before me which would lead me to conclude that it would not be possible to divert part of the EO Route away from Nos 13 to 15 by providing a ramp and connection to the area between Nos 13 to 15 and the Creek and thereafter follow the Proposed Diversion Route. For ease of reference I shall call this the Streetscape Strategy Route, although I am mindful that it is only part of the route described in that document.
44. I therefore consider that either the Proposed Diversion Route or the Streetscape Strategy Route would provide a feasible means of avoiding the current obstructions and I shall consider the likely use of them if made available.

Local Opinion

45. There has been a considerable volume of objection to the EO, including the Joint Objectors, Swale Borough Council and a significant number of individuals. At the inquiry Mr Caffarey represented 25 individual objectors. I have also received 23 pro forma questionnaire forms, some of which, but by no means all, were submitted by people who had also submitted individual objections. On the forms the individuals state that, if made available, they would walk the EO Route in preference to the Creation Order Route. Although it is clear that those forms were only given to people who were known to have a preference for using the EO Route and should not be taken as a general survey of people's opinion, nevertheless they show that a number of local people wish to walk the EO route and consider that it would be preferable to the existing, Creation Order Route.
46. KCC refer to the submission of Councillor Michael Henderson who states that he has "spoken to well over 100 local people walking the route of ZF42 all of whom find it entirely acceptable and none of whom want to see the ZF42 route

changed". However, no changes to ZF42 (the Creation Order Route) are proposed, none of these people gave evidence at the inquiry and I have no way of knowing whether, if available, they would use the EO Route instead of or in addition to ZF42 or not at all. Indeed there are few letters of support for either the Creation Order or the EO except from residents of Faversham Reach.

47. Ms Salmon gave evidence that the creation of a Creek side footpath was one of the most popular items in consultation during preparation of the Streetscape Strategy. A letter from Mr Cosgrove as chairman of the Faversham Creek Consortium refers to the workshops and exhibitions which have taken place in connection with the preparation of the draft Neighbourhood Plan. The letter states that the "one proposal which has received almost universal support is the opening of existing Creek side footpaths and the creation of the missing sections". Although I acknowledge that other elements would be necessary to provide a continuous Creek side path and ultimately such a path may not be achievable, nevertheless I consider that support for these proposals suggests that local people would like to use any section of Creek side path which was reopened or created.

Merits of the EO Route, alternative routes and the Creation Order Route

48. Mr Rusling for KCC produced a series of photographs taken along the Proposed Diversion Route and along the Creation Order Route. On my site visit views from both routes were considered in detail together with views from the EO Route and from the Streetscape Strategy Route in so far as possible.
49. For the majority of its length the Creation Order Route runs alongside the village green and public open space and I agree with Mr Rusling that this part of the route is pleasant in comparison with many urban and urban fringe paths. It does not however provide the views of the Creek which are available from the EO route, the Proposed Diversion Route or the Streetscape Strategy Route.
50. The Proposed Diversion Route would have a direct frontage to the Creek for less than 100m but views of the Creek would be available for considerably more than that. Although I accept that the various buildings along the Creek referred to in evidence can all be seen from other vantage points, I agree with many of the objectors that the close up views afforded from within Faversham Reach are not available from elsewhere. Mr Gardner referred to the panoramic view of the Creek available and Mr Blackford, a voluntary tour guide for the Faversham Society and the local Tourist Information Centre, stated that he would use the EO route regularly as part of his tours if available as it offers a "unique view of much of the historic port". Many of the letters of objection to the EO refer to the views available and the pleasures of walking by the Creek and I note that the KCC Report states that the EO Route and the Proposed Diversion Route provide "superb" views of the Creek.
51. Mr Rusling acknowledged that about 30 metres of the Creation Order Route is enclosed between buildings. The route is described in the Streetscape Strategy as "directly following the concrete wall.....to end in a dank, dark, cramped alley between the concrete wall and industrial premises". Although some users may consider this to be an over statement, I agree that this part of the route is unattractive.
52. I accept that the Creation Order Route is marginally shorter than the Proposed Diversion Route and that it is established, familiar and obvious on the ground.

However I do not accept that the Proposed Diversion Route would not be legible or that there would be an unacceptable conflict with cars within Faversham Reach. If necessary the route could be marked on the ground to guide users and I agree with the Joint Objectors that the greatest hazard from vehicles is where users have to cross the road immediately north of the northern end of any of the routes rather than within Faversham Reach itself.

53. Neither do I accept that the fact that Faversham Reach is a private residential estate would put off walkers to any degree. Those who gave evidence at the inquiry were clear that this was a route that they would wish to use and indeed it is somewhere that Mr Blackford stated he would include on his tours of Faversham.

Conclusion on likely future use

54. KCC submits that even if one were to disregard Faversham Reach entirely, "it is a little unreal to suggest that members of the public would use the line of footpath ZF5". I accept that some of the evidence before me relates to a desire to retain the EO route so that it could become part of the proposed public path through Faversham Reach, through Waterside Close and joining ZF32 to form a continuous Creek side path. I also accept that a continuous Creek side path is an aspiration which may never be realised. Nevertheless, a clear preference has been expressed by many who gave evidence that ZF5, or a diversion of it to avoid the houses whilst still retaining the views of the Creek, would be used in preference to, or at the very least in addition to, the Creation Order Route. I am satisfied that this use would be separate from and not dependant on any continuation of a Creek side path through Waterside Close.
55. From all the evidence before me I conclude that if it were made available for use, the EO Route would be likely to be used extensively by members of the public. Although there are strong policy reasons for treating the houses as temporary obstructions and therefore disregarding them, I acknowledge that in practice it is unlikely that any action aimed at removing the houses would be taken. I am however satisfied that a solution could be found to divert the definitive line so as to avoid the houses but retain the views of the Creek and that future use of such a route would be extensive.

The effect of extinguishment on land served by the footpath

56. The only land affected by the EO is Faversham Reach. Making the route available would give residents direct access to the village green and Crab Island and provide a shorter route to the centre of Faversham. Although this could be seen as a benefit, the evidence before me is that this is not something which residents would welcome and indeed concerns have been expressed about safety, security and vandalism if access is allowed from Crab Island.
57. I accept that it is in the private interests of the residents of the houses within Faversham Reach that the EO is confirmed. However there is no land directly served by this part of the footpath which would be detrimentally affected by its closure and compensation issues are not relevant.

Whether it is expedient to extinguish the footpath

58. The parties agree that expediency has a "broad character" and is not confined to the specific matters set out in S118 of the 1980 Act. I agree with KCC that need and the availability of an alternative route, in this case the Creation Order

Route are factors which can be taken into account and I acknowledge that the EO Route connects the same 2 points over a similar distance as the Creation Order Route.

59. I also accept that fairness can come into the equation. It is pointed out that many years have passed since Faversham Reach was constructed and that more than 35 conveyances have taken place, none of which has revealed the existence of the right of way. Although this may be as a result of the optional enquiry regarding rights of way not having been asked, I have considerable sympathy with the residents of Faversham Reach who have purchased houses through which a public right of way passes.
60. Nevertheless this has to be balanced against the interests of the public. KCC accepts that the public is entitled to use footpath ZF5 and there is no suggestion that it has been added to the definitive map in error. I have concluded that, if it were made available, the EO Route would be likely to be used extensively. Even if, due to there being reasons why it is unlikely that the obstructions would be removed, I accept that future use of the exact line of the EO Route would be nil as submitted by KCC, I have concluded that there appears no reason why it would not be feasible to divert the route from beneath the houses. I have also concluded that use of such a route, whether the Proposed Diversion Route, the Streetscape Strategy Route, or some other similar route is likely to be extensive.
61. The Joint Objectors refer to Natural England's duty under the Marine and Coastal Access Act 2009 to define a line for the English Coastal path and point out that once that line is defined all land between the coastal path and the sea becomes "coastal margin" to which, subject to exceptions, the public has a right of access for recreation. It is submitted that, as communal areas on estates are not excepted from coastal margin, if the Creation Order Route became the coastal path then the consequence would be that all the communal areas of Faversham Reach would be subject to a public right of access.
62. No information regarding the proposed coastal path is available to me and I have no way of knowing what route it may take and what the consequences of that route would be. Accordingly, in considering whether or not it is expedient to confirm the EO, I give very little weight to this matter. Furthermore no relevant provisions in KCCs Rights of Way Improvement Plan or emerging plan have been drawn to my attention.
63. Nevertheless, I give considerable weight to my conclusion with regard to the likely future use of the EO Route or a diversion of the EO Route. None of the other matters raised is of sufficient weight to lead me to conclude that it would be appropriate to confirm this order. Accordingly, I conclude that it would not be expedient to confirm the EO.

Conclusion

64. Having regard to these and all other matters raised at the inquiry and in writing, I conclude that neither the Creation Order nor the Extinguishment Order should be confirmed.

Formal Decisions

Creation Order

65. I do not confirm the Order.

Extinguishment Order

66. I do not confirm the Order.

Alison Lea
Inspector

APPEARANCES

FOR THE ORDER MAKING AUTHORITY:

Mr N Westaway

He called

Mr G Rusling

Public Rights of Way and Access Manager, KCC

FOR THE JOINT OBJECTORS:

Mr J Trevelyan

He called

Mr A Osborne

Mr D Simmons

Mr M Cosgrove

Ms A Salmon

Mr D White

Trustee and former Chair of Faversham Municipal Charities and Chair of Bensted's Charity.
Councillor and former Mayor of Faversham
Councillor for St Ann's Ward, Faversham and
Chair of Faversham Creek Consortium.
Chair of Faversham Society Planning Committee
and Director of the Faversham Society
Resident of Upper Brents.

SUPPORTERS:

Mr A Albery

Mr M Maloney

Faversham Reach Residents Association
Resident of Faversham Reach

OBJECTORS:

Mr G Thomas

Mr J Blackford

Mr T Gates

Mr M Gardner

Mr B Caffarey

Swale Borough Council
Local resident and tour guide
Town and County Councillor
Local resident
Local resident representing 25 individual objectors

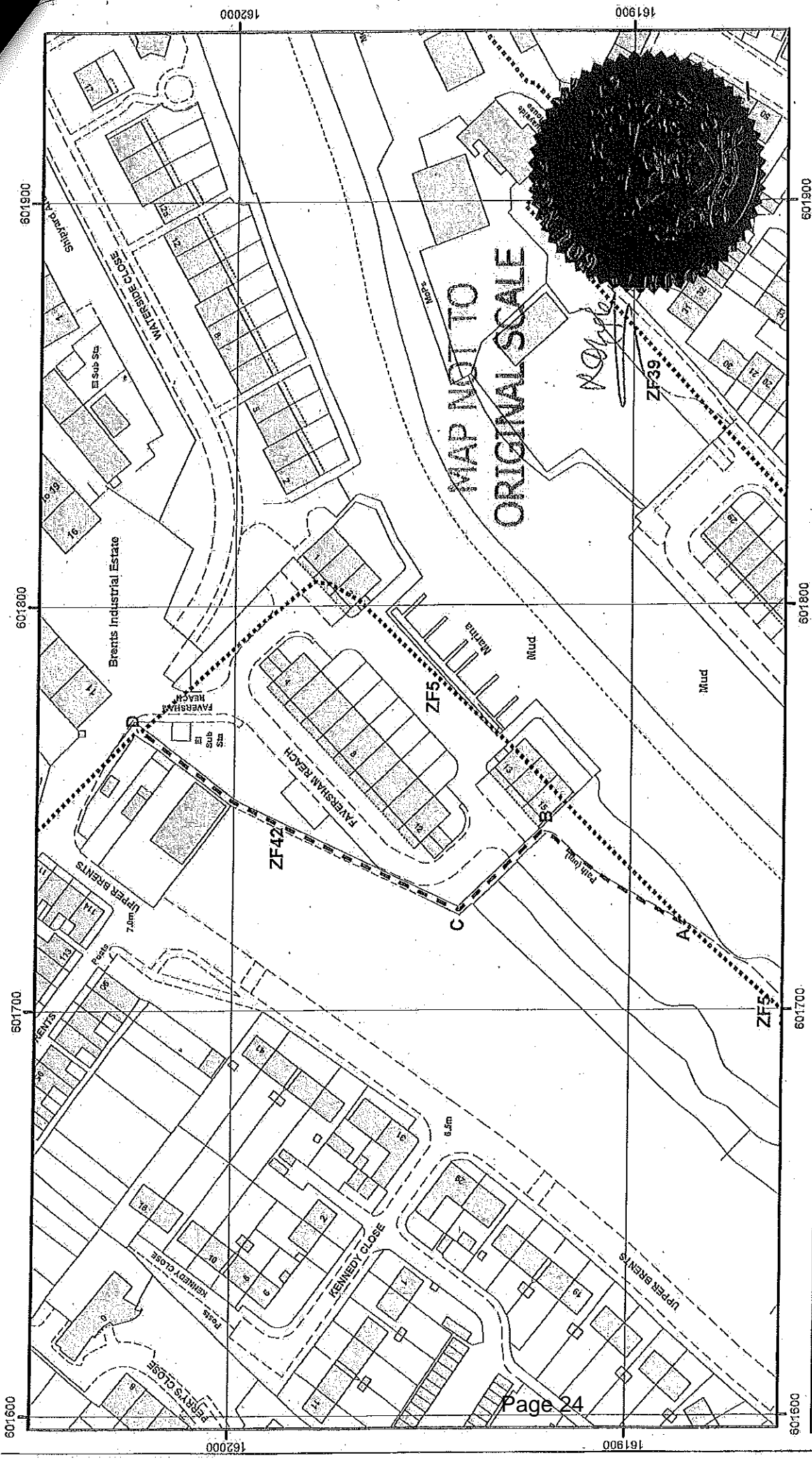
DOCUMENTS SUBMITTED AT INQUIRY

- 1 Andrew Osborne Supplementary Proof of Evidence in Rebuttal
- 2 Statement by Brian Caffarey
- 3 Faversham Creek Neighbourhood Plan Pre-submission Draft Consultation Document
- 4 Planning permission and associated documentation relating to Faversham Reach
- 5 Letter dated 22 March 2001 from Swale Borough Council enclosing signed acknowledgement relating to footpath creation agreement at Waterside Close and subsequent correspondence
- 6 Letter from Mr M Cosgrove, Chairman of Faversham Creek Consortium in response to public consultation
- 7 Planning permission and associated documentation relating to railings at Faversham Reach
- 8 Extracts from Marine and Coastal Access Act 2009 and from

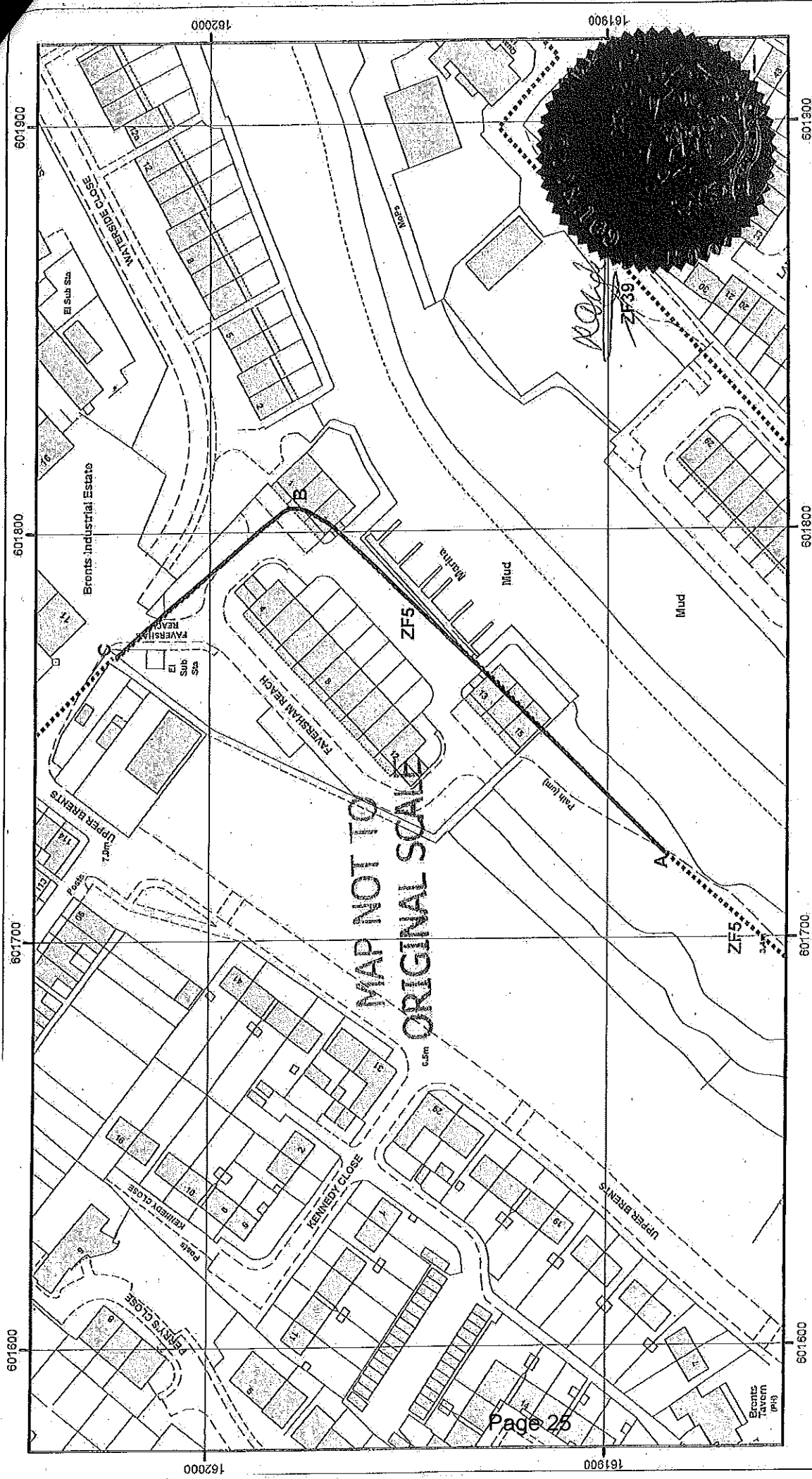
- 9 Coastal Access, Natural England's Approved Scheme
Letter dated 16 April 2014 relating to creation of a link to footpath ZF32
- 10 Extract from KCC Countryside and Coastal Access Improvement Plan
- 11 Proof of evidence relating to Creation Order at Kilvey Hill
- 12 Extract from Defra Circular 1/09
- 13 Minutes of Faversham Footpaths Meeting 21 October 2010
- 14 Letter from Mr and Mrs Bales dated 28 March 2013 in support of the Orders
- 15 Letter from Ms S White in support of the Orders
- 16 Extract from A History of Faversham and Oare Creeks and the Faversham Navigation by Frank Taylor
- 17 Transcript of Judgment in Cusack v London Borough of Harrow

PHOTOGRAPHS

- 1 Undated photograph showing site of Faversham Reach after closure of the shipyard
- 2 Bundle of photographs of working shipyard submitted by Mr Maloney
- 3 Undated photograph showing HGV close to entrance to Faversham Reach and Waterside Close

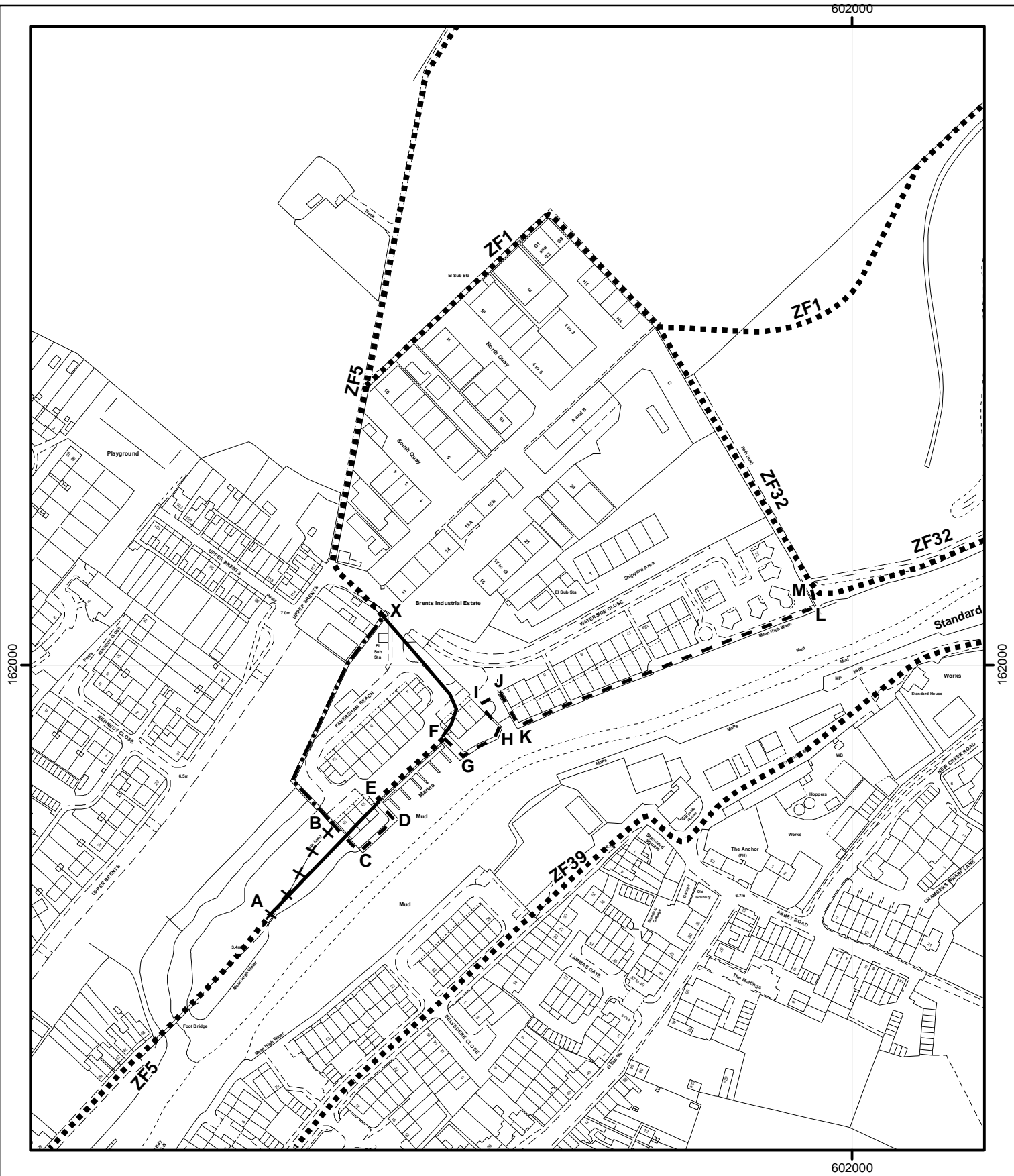


<p>Key</p> <p>----- Route to be created</p> <p>----- Unaffected Routes</p>		<p>Highways Act 1980 Wildlife and Countryside Act 1981 The Kent County Council (Public Footpath ZF42 Faversham) Public Path Creation and Definitive Map and Statement Modification Order 2012</p>		<p>0 Kilometres 0.0225 0.045</p> <p>0 Miles 0.0175 0.035</p>		<p>N</p> <p>1:1,250</p>
<p>Countryside Access Service</p>				<p>Produced by the KCC Countryside Access Service © Crown Copyright and database right 2012. Ordnance Survey 100019238</p>		
<p>Created by: SC</p>		<p>Checked by: SC</p>		<p>Reference: PROW/ZF42/1404</p>		



Key Route to be extinguished Unaffected Routes	Highways Act 1980 Wildlife and Countryside Act 1981 The Kent County Council (Public Footpath ZF5 (part) Faversham) Public Path Extinguishment and Definitive Map and Statement Modification Order 2012	<div style="display: flex; justify-content: space-between;"> <div> 0 Kilometres 0.0225 0.045 0 Miles 0.0175 0.035 </div> <div> N 1:1,250 </div> </div> <div style="text-align: right; font-size: small;"> Produced by the KCC Countryside Access Service © Crown Copyright and database right 2012. Ordnance Survey 100019238 </div>	
Countryside Access Service		Created by: SC Checked by: SC Reference: PROWZF5/1404	

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- - - Proposed diversion ZF5
- + + + Other public highway forming part of proposed diversion (route A - B)
- Lengths of ZF5 to be extinguished
- Unaffected route
- Other unaffected public highway

Highways Act 1980 **The Kent County Council (Public Footpath ZF5 (parts) Faversham) Public Path Diversion and Definitive Map and Statement Order 2015**

Produced by the KCC Public Rights of Way and Access Service.
Please note: this map extract is not a legal record of the alignment or existence of a public right of way. No measurements should be taken from it.
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Statement of Reasons

THE KENT COUNTY COUNCIL (PUBLIC FOOTPATH ZF5 (PART) FAVERSHAM) PUBLIC PATH DIVERSION AND DEFINITIVE MAP AND STATEMENT MODIFICATION ORDER 2015

On 21 November 2012 a Panel of Kent County Council's Regulation Committee considered the diversion of a long obstructed public footpath, ZF5, at Faversham Reach. The footpath is obstructed by a wall (formerly the boundary to a shipyard) and by five residential properties within the Faversham Reach Estate, an estate built on the former shipyard site in 1987.

Two proposals were considered, one seeking the diversion of the footpath to an unobstructed alignment providing some creek side access within the Faversham Reach Estate and one, advanced by residents, involving the extinguishment of the public footpath where it crossed the estate and the creation of a public footpath outside, and following, the boundary wall to the estate.

Ultimately it was the second proposal advanced by residents that was pursued.

In December 2012, the Kent County Council PROW and Access Service made the extinguishment and creation Orders. Objections to the Orders were received and the Orders were therefore submitted to the Secretary of State for decision. The Secretary of State held a Public Inquiry at Faversham from 20 - 23 May 2014 to consider the Orders.

The Inspectors decision on behalf of the Secretary of State was received on the 2 July 2014. The Inspector concluded that neither the creation Order nor the extinguishment Order should be confirmed on the basis that:-

- The creation Order route was of longstanding and was in effect an existing public highway. The Inspector took the view that there was "no reason to doubt that the right of way exists" over the alternative route.
- The extinguishment Order route would be likely to be well used in the future if the obstructions to the route are discounted. As a matter of Government policy and case law, even obstructions such as houses are considered to be temporary circumstances. (Order decision reference FPS/W2275/6/4, FPS/W2275/3/12 : http://www.planningportal.gov.uk/uploads/pins/row/documents/fps_w2275_6_4_3_12.pdf)

No challenge was made to the Secretary Of State's decision. Public Footpath ZF5 therefore remained obstructed; clearly an unsatisfactory situation for both the residents whose properties are affected and members of the public who wish to use it.

The feasibility of various options to resolve the long standing obstructions and provide creek-side access, a desire of the local community expressed in the neighbourhood plan, was considered and reported to the Kent County Council Regulation Committee and Swale Borough Council.

Three options were considered:

Do nothing; this would fail to meet the County Council's statutory duty to assert and protect the highway, perpetuate an unsatisfactory position on the ground, blight homes and leave the County Council open to the risk of a challenge through the courts.

Remove the obstructions: there was no suggestion that obstructions other than sections of the shipyard wall should be removed given that the obstructions include residential properties. This was not considered a realistic or desirable solution.

Divert the obstructed section of the public footpath. The Inspectors report stated that "there appears to be no reason why it would not be feasible to divert the route from beneath the houses".

The County Council had already rejected one proposal for diversion. It was recognised that it would be most unlikely that a route could be identified that enjoyed universal support.

Potential options for diversion were considered (referred to as 1,2,and 3 below) and plans prepared for each.

Option 1

Diversion of Public Footpath ZF5 to provide continuous creek-side access between Crab Island and Public Footpath ZF32.

This proposal would deliver the creek-side access sought in the draft Neighbourhood Plan.

It provides a route that can be readily followed with little need for waymarking. It is subject to natural surveillance from neighbouring properties and could be further segregated from the Faversham Reach and Waterside Close Estates should that be desired or necessary.

This option delivers access along the creek-side at Waterside Close that should have been delivered through a Town and Country Planning Act 1990 section 106 agreement.

The route would require the construction of 2 ramps (points C and L on the Order plan) to provide access to Faversham Reach Estate and from Waterside Close Estate if travelling north west along the route. A

cantilever walkway is required to provide access beside the slipway at point H. A significant contribution to the cost of the provision of the ramps and walkway has been offered by the Faversham Municipal Charities and Bensted Charity. It is anticipated that any balance required will be met by the Kent County Council, Swale Borough Council and other partner organisations.

One of the ramps would be situated on a registered village green. Consideration has been given to whether the construction of the ramp would be a nuisance under the Victorian statutes that protect village greens. In light of DEFRA's¹ guidance on the subject and the fact that any ramp would appear to add to the better enjoyment of the green it is hard to see how the construction of a ramp would cause material harm to the green, interfere with the public recreational enjoyment or be at odds with the rights associated with village green status. It is therefore considered that de-registration of a small area of the village green would not be required to enable the construction of the ramp.

While provision is made within the Highways Act 1980 for the payment of compensation to affected landowners any claims are considered to be weak as in the case of Faversham Reach public rights of way already exist (albeit obstructed) and in the case of Waterside Close a Town and County Planning Act section 106 agreement and supporting documentation exist clearly indicating the landowner/ developers intention to create a public right of way creating creek-side access at the time of construction.

Option 2:

The proposal, as previously submitted by the Faversham Town Council, seeking the diversion of the footpath to an unobstructed alignment providing some creek side access within the Faversham Reach Estate.

This option had already been considered and rejected by the Regulation Committee Panel. It would require the construction of a ramp to breach the difference in levels between Crab Island and Faversham Reach Estate. The existing wall would need to be breached at the top of the ramp to provide access to the estate. Egress from the Estate would be via the existing gates, compromising security.

The option does not provide a route that is obvious to users without the aid of waymarks and was again rejected.

Option 3

A diversion following the creek-side through Faversham Reach but turning north to link with the continuation of Public Footpath ZF5 passing through the gates of Faversham Reach.

¹ DEFRA Management and Protection of Village Greens January 2010.

Should it not be possible to divert or create the route along the creek-side around the slipway and through Waterside Close there would be little option but to divert the route entirely within Faversham Reach Estate.

This route has an advantage in that it requires only one ramp but has similar limitations to option 2 in that egress from the estate would be via the existing gates, compromising security.

The option does not provide a route that is obvious to users without the aid of waymarks.

Both Kent County Council and Swale Borough Council concluded that option 1 provided a solution that was feasible and would deliver the best outcome for residents and the public if successful.



Feasibility/Options Report

Public Footpath ZF5 Faversham Reach

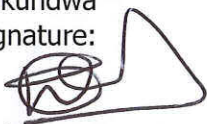
CO04300288 /01 Revision 01

November 2015



Document Control Sheet

Project Name:	Public Footpath ZF5 Faversham Reach
Project Number:	CO04300288
Report Title:	Feasibility/Options Report
Report Number:	01

Issue Status/Amendment	Prepared	Reviewed	Approved
Rev. 0	Name: Wellington Takundwa Signature: <i>W Takundwa</i> Date: 14/10/2015	Name: Chris Shelbourn Signature: <i>C Shelbourn</i> Date: 14/10/2015	Name: Dushy Hettiaratchi Signature: <i>D Hettiaratchi</i> Date: 15/10/2015
Rev. 01 Executive summary Section 1.1 Section 1.3 Section 2.3 Section 2.6 Section 2.8 Section 6.2	Name: Wellington Takundwa Signature:  Date: <i>5 Nov 2015</i>	Name: Chris Shelbourn Signature: <i>C.J. Shelbourn</i> Date: <i>9th Nov. 2015</i>	Name: Chris Shelbourn Signature: <i>C.J. Shelbourn</i> Date: <i>9th Nov. 2015</i>
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	Name: Signature: Date:	Name: Signature: Date:	Name: Signature: Date:

Executive Summary

Amey was commissioned by Kent County Council Public Rights of Way to undertake a feasibility study of an obstructed public footpath ZF5 at Faversham Reach, Kent. The route of the footpath is currently obstructed by quayside developments. Three ramps will be required along the proposed route overcoming an existing height difference of 1 to 2m either ends of the footpath. The options considered are as follows:

- Do-nothing
- Solid construction
- Metal platform option
- Concrete platform option
- Cantilever reinforced concrete slab

In developing the options, ground investigation and ecological scoping were undertaken and reports of these are in Appendices C and D.

Solid construction has been recommended because it provides the most cost-effective long term solution for all the locations. Drawings showing each proposed option are in Appendix B.

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1 Introduction

1.1 Client brief

Kent County Council Public Rights of Way commissioned Amey Consulting to carry out a feasibility study of a proposal to resolve a long standing obstruction to Public Footpath ZF5 at Faversham Reach in Kent. The feasibility study involves finding solutions to make the route continuous either by diverting the existing public footpath to a new creek-side alignment or constructing ramps at two locations. The third location requires solutions to provide access beside the slipway.

The commission included a topographic survey, environmental scoping and ground investigation.

1.2 Aims of the Feasibility

The aim of this study is to provide a recommendation for a ramp option for 3 no. locations of the existing public footpath which is cost effective, buildable and has the least impact on the surrounding environment.

The report will provide capital costs for constructing the proposed options. There is no whole life costing required as part of the commission.

This report will also consider environmental impacts for the proposed scheme.

1.3 Background

The existing public footpath ZF5 is located adjacent to Faversham Creek turning inland towards Ham Farm via Faversham Reach at Faversham, Kent. The footpath has been obstructed to the public by residential development since at least 1997.

For the purposes of this report reference points of the public footpath ZF5 have been called A to M from the west end as indicated in the location plan in Appendix B.

There are no as-built records of the structure. However, previous reports indicate that the footpath has been constructed over time next to the various businesses and residential properties surrounding the Creek.

- 72m steel sheet piles with reinforced concrete capping
- 87m timber sleepers and timber piles with reinforced concrete capping.

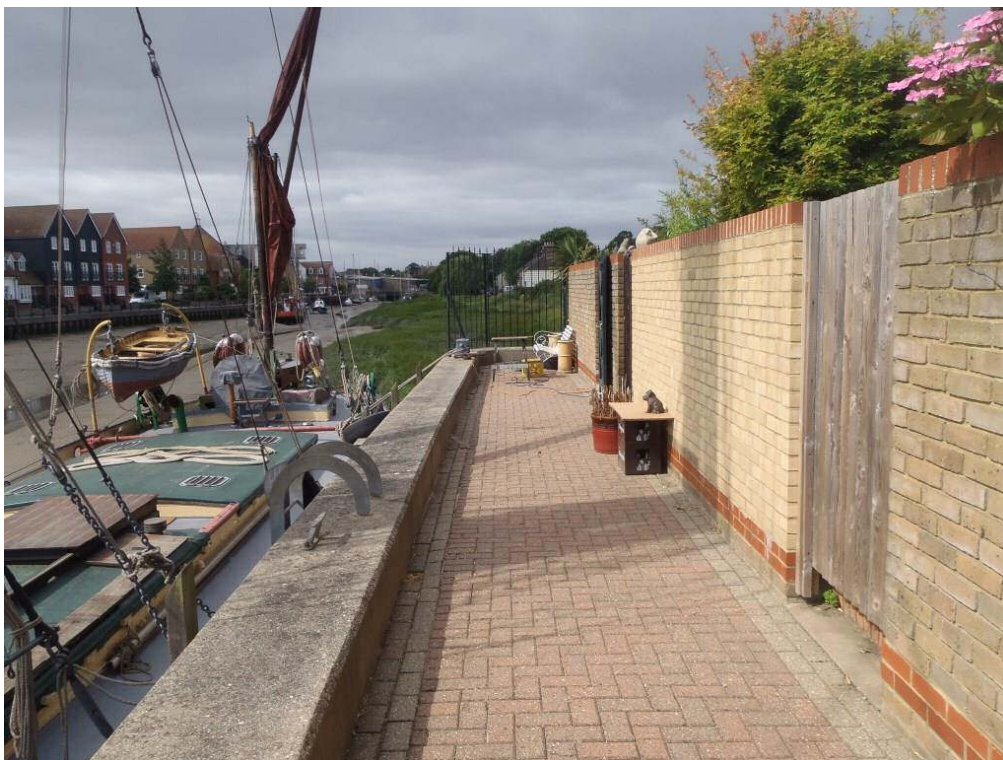
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1.5 Photographs of the existing structure



Photograph 1: Location of point B-C looking north.



Photograph 2: View of point B-C looking west.



Photograph 3: Location of point L looking west.



Photograph 4: Location of point H-I looking east.

2 Design Considerations

2.1 General

A detailed structural inspection of the areas of interest has been undertaken as part of this study together with a topographic survey, environmental scoping and geotechnical investigation.

2.2 Details of existing structural elements

The steel sheet piles and concrete pile cap were found to be in good condition with general surface corrosion. The piles appear to have been covered by corrosion protection paint. The concrete capping beam was found to have cracking consistent with thermal and shrinkage effects. Minor spalling and impact damage were observed in places of the reinforced concrete capping beam.

2.3 Land Ownership

A land search has not been undertaken for the ramp options. It is understood that all land within the footprint of the existing footpath is a designated public right of way or owned by the Local Authority.

All the proposed ramp options are within the footprint of the proposed public right of way boundaries.

2.4 Land Use

The land at the east and west ends of the proposed footpath is currently undeveloped. At point L, the surrounding land is currently used as farmland for crops and grazing. The land at point C forms part of the protected area of marshland making up Faversham Village Green.

Land will be required for a site compound to accommodate a welfare unit and stores. This is proposed to be set up on the open land to the west of point L. Ownership of the land will need to be determined and the appropriate arrangements agreed before commencement of the works.

2.5 Public Footpath Closures

The existing footpath is currently obstructed; hence there will be no requirement for closures at points B-C and point L. However, there are no options for a diversionary route at the slipway (points H-I) and closure of the slipway will be required during construction.

Closure of the slipway to facilitate works will require significant local consultation before the project commences.

2.6 Equality Act 2010

Part 2 Clause 20 of the EA makes it unlawful to provide a physical feature that puts a disabled person at a substantial disadvantage in relation to a relevant matter in comparison with persons who are not disabled. In the context of this report that is taken specifically to reference users who are wheelchair bound, use mobility vehicles and/or have some sort of visual or hearing impairment.

Design of the ramps will accommodate wheelchair and mobility vehicle users. According to Section 3.2 of the Department for Transport (DfT) publication Inclusive Mobility, access ramps to structures should never exceed 8% (1:12.5 slope) as anything greater would be a significant impediment to wheelchair users, not only due to the effort required to push, but also due to the significant risk of toppling over.

Section 8.4.3 of Inclusive Mobility also recommends that an additional handrail (to that specified in BD 29/04) shall be included for children and people of reduced stature at a height between 550 and 650mm.

2.7 Statutory Undertakers Apparatus

Responses to notices have been received from all the statutory undertakers.

None are likely to be affected by any of the ramp options being considered.

2.8 Traffic Impact Assessment

Consultation with KCC's officer responsible for the Swale District will be undertaken to discuss the scope for the Traffic Impact Assessment (TIA) during the construction phase.

Existing usage of the slipway during peak periods should be assessed. This work is not required at this stage but will be required for the detailed design stage. This would allow an initial appraisal of the likely impacts of closing the slipway during construction.

2.9 Design Criteria

- All options minimum footpath width of 1.50m
- Turning circle for mobility vehicles 1.50m
- Maximum gradient of 1 in 12
- Design life 40 years
- Design for cantilevered footway loading (5kN/m²)
- Concrete may be designed for sulphate class DS2 and AC2 exposure class
- Hand rail to match existing
- Finish to match existing

3 Options

3.1 General

All the options will include capital costs for the construction phase.

Tidal variations will have significant effect on the construction works, hence careful planning will be required to programme construction phases to avoid disruption to the works.

3.2 Do-Nothing

This option is not considered appropriate because the footpath will remain obstructed.

3.3 Location B-C

At this location the three options considered were solid construction, metal and concrete platform ramp options.

3.3.1 Option 1: Solid Construction

This solution involves constructing a solid footpath by backfilling and compacting approximately 2.0m towards the west and paving with brick to match the existing. The fill and brick paving will be retained by steel sheet piles also to match the existing. A section of the existing reinforced concrete capping beam will be demolished to enable connection between the existing and proposed footpath.

3.3.2 Drawings

Drawings showing details of the proposed structures are included in Appendix B.

3.3.3 Estimated capital costs

The estimated construction cost is detailed in the table below:

item	Cost £
Preliminaries (10%)	3616.58
Site Clearance	447.50
Safety Fencing	1150.00
Earthworks – General	9077.15
Kerbs, Footways & Paved Areas	1520.00
Piling	20970.00
Structures	3001.18
Contingencies (10%)	3978.24
Total	£43,760.65

3.3.4 Outline timescale for delivery

It is estimated that this option will take approximately 1 week to construct.

3.3.5 Advantages

- No excavation required
- Sacrificial steel design thereby negating painting maintenance of the piles
- Low maintenance
- Aesthetically pleasing solution to fit in with surrounding environment

3.3.6 Disadvantages

- Longer construction period than the platform options below
- In-situ construction of the reinforced concrete capping beam increases construction programme
- Greater ecological impact (displacement of fauna and flora).

3.3.7 Option 2: Metal Platform

This solution involves constructing the footpath using metal platform ramps on piled foundations. The metal platform ramps will comprise a 2.0m x 2.3m platform connected to the Public Rights of Way (PRoW) track by a sloping ramp. This ramp will have a maximum 1:12 slope in accordance with the requirement of the Department for Transport guidance on Inclusive Mobility.

3.3.8 Drawings

Drawings showing details of the proposed structures are included in Appendix B.

3.3.9 Estimated capital costs

The estimated construction cost is detailed in the table below:

item	Cost £
Preliminaries (10%)	2193.04
Site Clearance	447.50
Safety Fencing	1800.00
Earthworks – General	6650.00
Kerbs, Footways & Paved Areas	250.00
Piling	4550.00
Structures	8232.64
Contingencies (10%)	2412.32
Total	£26,535.47

3.3.10 Outline timescale for delivery

It is estimated that this option will take approximately 1 week to construct.

3.3.11 Advantages

- Minor excavation
- Prefabricated ramps provide a quicker construction method over piling
- Minor ecological impact (displacement of fauna and flora)
- Easily transported to site

- Low capital cost.

3.3.12 Disadvantages

- Painting maintenance
- Prone to additional settlement following construction
- Aesthetically does not blend with the current environment.

3.3.13 Option 3: Concrete Platform

This will be a variant of option 2 using concrete as the material of choice.

3.3.14 Drawings

Drawings showing details of the proposed structures are included in Appendix B.

3.3.15 Estimated capital costs

The estimated construction cost is detailed in the table below:

item	Cost £
Preliminaries (10%)	2193.04
Site Clearance	447.50
Safety Fencing	1800.00
Earthworks – General	6650.00
Kerbs, Footways & Paved Areas	250.00
Piling	4550.00
Structures	7120.64
Contingencies (10%)	2412.32
Total	£25,423.47

3.3.16 Outline timescale for delivery

It is estimated that this option will take approximately 1 week to construct.

3.3.17 Advantages and Disadvantages

The advantages and disadvantages are similar to those of the metal platform option with the only difference being that this option requires less maintenance.

3.4 Location H-I

At this location the two options considered were solid construction and cantilever reinforced concrete slab.

3.4.1 Option 1: Solid Construction

This solution will involve a similar construction technique the one described in option 1 of location B-C, with different dimensions. The other possible difference would be retention of the existing reinforced concrete capping beam.

3.4.2 Drawings

Drawings showing details of the proposed structures are included in Appendix B.

3.4.3 Estimated capital costs

The estimated construction cost is detailed in the table below:

item	Cost £
Preliminaries (10%)	3005.39
Site Clearance	275.00
Safety Fencing	1100.00
Earthworks – General	1822.00
Kerbs, Footways & Paved Areas	2710.00
Piling	19485.20
Structures	4661.71
Contingencies (10%)	3305.93
Total	£36,365.23

3.4.4 Outline timescale for delivery

It is estimated that this option will take approximately 1 week to construct.

3.4.5 Advantages and Disadvantages

The advantages and disadvantages are similar to those of the solid construction for location B-C.

3.4.6 Option 2: Cantilever reinforced concrete slab

This solution will involve constructing an in-situ reinforced concrete slab cantilevered from the existing capping beam and steel sheet pile retaining wall. Partial demolition of the capping beam at the north end to enable steel fixing and at the south and west ends steel starter bars will be drilled into the existing reinforced concrete capping beam to enable steel fixing of the proposed reinforced concrete slab. A short ramp with a maximum slope of 1:12 will be required on the west approach in order to compensate for the height difference between the existing and proposed finished level. An appropriate pedestrian guardrail system will be fixed onto the edge of the proposed cantilever slab to protect pedestrians. Installation of appropriate bollards is proposed underneath the proposed cantilever to deter errant vehicles.

3.4.7 Drawings

Drawings showing details of the proposed structures are included in Appendix B.

3.4.8 Estimated capital costs

The estimated construction cost is detailed in the table below:

Item	Cost £
Preliminaries	1723.17
Site Clearance	275.00
Safety Fencing	1100.00
Earthworks – General	302.00
Kerbs, Footways & Paved Areas	2390.00
Structures	12164.71
Contingencies (10%)	1895.49
Total	20,850.37

3.4.9 Outline timescale for delivery

It is estimated that this option will take approximately 2 weeks to construct.

3.4.10 Advantages

- Minor excavation

- Minor ecological impact (displacement of fauna and flora).

3.4.11 Disadvantages

- Requires more site investigation of the existing structural elements
- Difficult to install
- Longer construction period
- In-situ construction of reinforced concrete slab increases construction programme.

3.5 Location L-M

At this location only a solid construction was considered because of the condition of the existing footpath. This solution will involve a similar construction technique to the one described in option 1 for location B-C, with different dimensions.

3.5.1 Drawings

Drawings showing details of the proposed structures are included in Appendix B.

3.5.2 Estimated capital costs

The estimated construction cost is detailed below:

item	Cost £
Preliminaries (10%)	3768.53
Site Clearance	800.00
Safety Fencing	2100.00
Earthworks – General	6748.00
Kerbs, Footways & Paved Areas	150.00
Piling	25188.00
Structures	2699.32
Contingencies (10%)	4145.39
Total	£45,599.24

3.5.3 Outline timescale for delivery

It is estimated that this option will take approximately 1 week to construct.

3.5.4 Advantages and disadvantages

The advantages and disadvantages are similar to those of the solid construction for location B-C.

4 Environmental Considerations

An initial environmental and ecology scoping assessment has been undertaken as part of this feasibility.

The following sections are a brief summary of the scoping which will need to be addressed by the designer and contractor at the subsequent stages of the scheme.

4.1 Emissions and Waste

As it is likely that the overall cost of the works for the scheme will not exceed £300,000 a site waste management plan (SWMP) will not be required.

Material for disposal may be classed as inert waste. However additional contamination testing and a waste acceptance criteria test (WAC) are further recommended.

4.2 Air Quality

The site does not lie within an Air Quality Management Area (AQMA).

The works will take place near the Creek and the site is therefore impacted by exhaust emissions from construction plant and local residents could be affected.

4.3 Archaeology and Cultural Heritage

The footpath site lies within the Faversham designated conservation area and a search of the English Heritage website indicates that there are several Grade II listed buildings within 300m of the site. However, the search has not identified any Scheduled Ancient Monuments, Registered Parks and Gardens, Registered Battlefields and World Heritage Sites within the radius of the site.

Historically the ground at point L has been used for a warehouse and infrastructure associated with the ship building history of Faversham. This was demolished prior to the 1980s and a railway siding or tramway connecting with the creek edge used to run near the site. At point C there was no development of the site until the late 1990s when the houses of Waterside Close and retaining structures were built.

A further assessment will be required for the subsequent stages of scheme development. The local Conservation Officer should be contacted to determine whether consent is required as works lie within a designated conservation area.

4.4 Landscape

The site does not lie within an Area of Outstanding Natural Beauty (AONB).

The scheme will involve aesthetic changes and visual impact will be minimal because of the modest size of the ramps.

The site lies in an area covered by the Landscape Information System (K-LIS) and is characterised as Eastern Swale Marshes. The landscape character area has the following features:

- Remote, wild and exposed
- Broad skies, Pervasive influence of sea and sky
- Creeks, ditches and sea walls
- Grazing marsh, wild birds and grazing animals
- Creekside townscape and waterside buildings.

The site lies in a low lying area and with the small nature of the scheme it is predicted that landscape impacts will be minimal for all the options.

4.5 Ecology and Nature Conservation

There are no Special Areas of Conservation (SACs) within a 2km radius of the site. However, a Site of Special Scientific Interest (SSSI), Special Protection Area (SPA), Ramsar site and Higher Level Stewardship Scheme lie to the east of the site. The site also lies within a Marine Conservation Zone.

SPA and Ramsar sites are classed as Designated European Conservation Sites.

The Preliminary Ecological Report in Appendix E highlights further work required such as:

- An Assessment of Implications of/on European Sites
- Reptile survey during active season (April-September)
- Habitat Suitability assessment within 250m to determine presence of Great Crested Newt (mid-April and mid-May).

Environment Agency (EA) will need to be consulted at the subsequent design and construction stages of the scheme.

4.6 Geology and Soils

Preliminary contamination testing shows that any soil excavated may remain on site or be re-used within the scheme. Any surplus waste arising from the scheme will not need to be disposed of as hazardous waste. However, additional testing is recommended should disposal be necessary.

4.7 Material Use

No further assessment is envisaged, however, the following should be considered at the detailed design stage:

- Consideration of the presence of asbestos in the existing footpath
- All waste should be stored in accordance with regulations
- Sourcing local materials to minimise associated transportation costs
- Waste removal should be undertaken by licenced waste sub-contractors
- Consideration of whole life costs of materials as those requiring less maintenance are more durable.

4.8 Noise and Vibration

Noise receptors will be required within close proximity to these works as there are residential properties and business premises either side of the site.

The following mitigation measures need to be considered:

- Noise and vibration should be controlled and limited as reasonably practicable so that receptors are protected from excessive noise levels during construction.
- Working hours should be strictly followed
- Advance notice of works should be given to residential properties and local businesses
- Where local residents are affected by the works, timing and phasing of work during the construction phase should be considered.

4.9 Drainage and Water Environment

The site does not lie within a Groundwater Source Protected Zone (SPZ) and no wells used for public drinking supply are located near the site.

The Faversham Creek, a tributary of the Swale separates the mainland from the Isle of Sheppey and at low tide, the water recedes about 10m from locations C and L. The groundwater table coincides with the creek water level, making the unsaturated zone very thin.

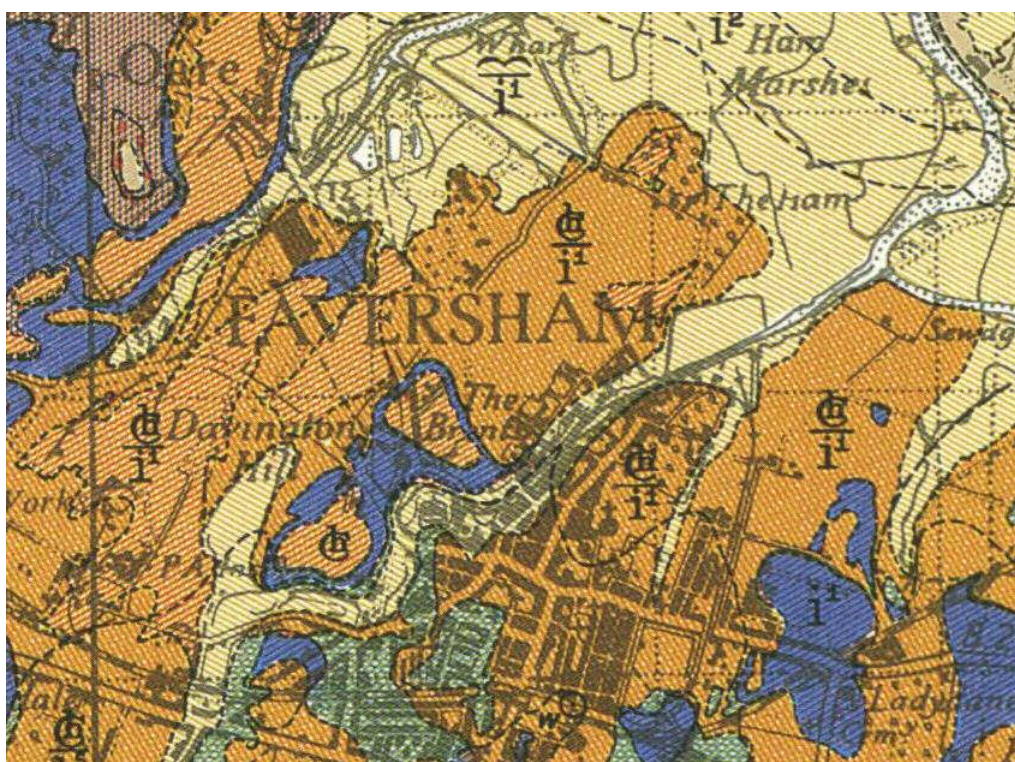
The site has a high risk of flooding and is located within a flood zone 3, indicating a 1% chance of flooding each year.

Consultations with the Environment Agency must be undertaken prior to construction because the EA website (EA, 2015) indicates the area directly to the southeast of point C has been granted indicative funding for a local flood protection capital scheme for 2015/16.

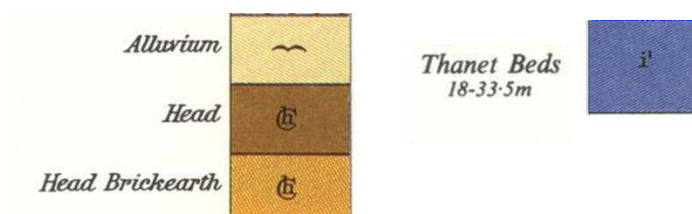
5 Geotechnical Considerations

5.1 Background and Geotechnical Information

No historical information is available for the public footpath. However, records have been obtained from the British Geological Survey (BGS) and the associated BGS memoir Geology of the country around Faversham. The records indicate that the site is underlain by alluvium and head brickearth over solid geology comprising Thanet Sand formation. An extract of the published geological map is shown below:



[C10/014-CSL] British Geological Survey © NERC. All rights reserved.



The geological map does not indicate the presence of made ground on site. However, a variable thickness of made ground can be expected due to previous cycles of development.

There are a number of historic and authorised landfill sites nearby. Ham Farm, 50m away from point L is designated an authorised landfill. The nearest historic landfill is located 500m to the north-west of the footpath.

5.2 Preliminary Geotechnical Advice

The underlying geology will be capable of supporting new piled structures through end-bearing and shaft resistance. The piles can be embedded in the Thanet Sand at 7m below ground level.

The bearing capacity of the piles may be determined using characteristic soil properties in the table below:

Stratum	Depth Range	Undrained shear strength C_u	Effective angle of shearing resistance, ϕ'	Effective cohesion, c'	Coefficient of active earth pressure (K_a)*	Coefficient of passive earth (K_p)*	Weight Density
Made ground	0-1.5m	20kPa	28°	0kPa	0.361	2.770	19kN/m ³
Alluvium (clay)	1.5-7m	5kPa	24°	0kPa	0.422	2.371	15kN/m ³
Head brickearth and Thanet Sand	>7m	80kPa	32°	0kPa	0.249	4.028	19kN/m ³

An allowance for ongoing settlement of 15-20% of the height of fill should be accounted for when using engineered general fill.

5.3 Geotechnical Investigation

A geotechnical investigation has been undertaken in the vicinity of the footpath and has been reviewed for this report. The investigation comprised two dynamic probes and two window samples at locations C and L.

The following laboratory tests were undertaken on samples retrieved during the investigation:

- 7 no. natural moisture content tests
- 2 no. Atterberg limit tests (liquid and plastic limits)
- 2 no. Building Research Establishment (BRE) sulphate tests
- 2 no. general contamination suite tests.

The strata encountered during the dynamic probe is summarised in the table below:

Strata	Description	Thickness (m)	SPT / CPT values
Made ground	Silty sandy clay with gravelly flint, sandstone, brick, glass and wood	0.8 at point C 1.8 at point L	–
Alluvium	Soft, grey to dark grey clay with rare plant matter	5.0	4

The base of the alluvium was not encountered during the window samples, but can be estimated from the dynamic probing results as lying at between 4.5m and 5.5m below ground level. The dynamic probes suggest that there is 1m to 2m of low strength material below the very soft alluvium between 5m and 7m depth. This might be the head brickearth or weathered Thanet Sand.

The probe results also show a clear change in consistency at approximately 7m, which is believed to be definitely Thanet Sand at this depth.

Groundwater was found to be influenced by the tide, however, it will always be higher than the river level.

6 Operation and Maintenance

6.1 Operation of Footpath

It is understood that the operation of the footpath will be the responsibility of Kent County Council Public Rights of Way Department (PRoW).

6.2 Inspection and Maintenance

All the ramp and cantilever options will require General Inspections (GI) undertaken on a biennial basis.

The estimated costs of the inspections and maintenance have not been detailed in this report because Whole Life costing was not required as part of this commission.

Ownership of the current footpath will remain with the management companies and the new sections will be maintained by KCC.

7 Stakeholders

7.1 Stakeholder Consultation

Stakeholder liaison was excluded from the scope of this report. However, local residents have been consulted during the feasibility.

The effects of proposed work should be planned with full consideration of the impact on all stakeholders and reasonable measures to eliminate or mitigate effects should be taken.

It is recommended that a full public consultation exercise should be undertaken during the detailed design stage for the scheme.

The principal stakeholders identified at this stage include the following organisations and groups:

- Road users
- River users
- Swale District Council
- Faversham Town Council
- Other KCC departments
- Environment Agency
- Natural England
- Statutory Undertakers
- Brents Tavern Public House
- Brent Industrial Estate
- Emergency services (Fire and Rescue, Police and Ambulance)
- Waterside Close Residents Association
- Faversham Reach Residents Association
- Ham and Syndale Estate.

8 Discussions

The do-nothing option is not considered appropriate because the footpath will remain obstructed.

8.1 Cost Comparison

Cost comparisons have been undertaken for each location except for location L-M which has only one option. A scoring system of 1 to 10 with 1 being the least desirable and 10 being the most desirable has also been used to support each option by considering buildability, cost, durability and environmental impact.

8.1.1 Location B-C

	Buildability	Cost	Environmental impact	Durability	Total Score
Solid construction	10	6	7	10	33
Metal Platform	10	10	10	8	38
Concrete Platform	10	10	10	7	37

It can be seen from the table above that the metal platform provides the best solution when considering buildability, cost, durability and environmental impact.

Item	Cost £
Option 1: Solid construction	43,760.65
Option 2: Metal platform	26,535.47
Option 3: Concrete platform	25,423.47

The estimated cost summaries for options 2 and 3 for location B-C are very similar. The speed of construction combined with cost makes either a desirable option for location B-C because all the bespoke ramp units will be prefabricated off site, thereby saving on time and cost. This option has the least ecological impact on the environment because of minimal earthworks and permanent land take. However, these options are susceptible to settlement in the long term and option 2 requires greater maintenance in the future.

In the event of settlement occurring the connection between the existing and the proposed ramp will create a health and safety hazard.

Aesthetically, these options do not blend with the current environment.

As can be seen from the two tables above Option 1 has the highest capital costs and scores the lowest when considering buildability, cost, durability and environmental impact. However this option blends with the current environment is the most durable of the three options.

When considering all factors, either option 2 or 3 would therefore provide the best solution for location B-C.

8.1.2 Location H-I

	Buildability	Cost	Environmental impact	Durability	Total Score
Solid construction	10	6	8	10	34
Cantilever reinforced concrete slab	6	10	6	8	30

Item	Cost £
Option 1: Solid construction	36,365.23
Option 2: Cantilever reinforced concrete slab	20,850.37

At this location two options were considered and the estimated cost summaries showed a 42% difference between the options. Option 2 proved to be the cheaper option because of the structural form and method of construction. However this option has the potential of promoting antisocial behaviour in the area under the cantilever slab. There is also a risk of pedestrians accidentally hitting their heads on the cantilevered slab. The current condition of the existing steel sheet pile wall and reinforced concrete capping beam is unknown and extensive testing will be required which in turn may increase the cost estimate. For aesthetic purposes this option does not blend with the existing environment.

8.1.3 Location L-M

Item	Cost £
Option 1: Solid construction	£45,599.24

The current structural arrangements and condition of the footpath at location L-M are poor and solid construction was considered the only sustainable and cost effective option. The approximate 1.8m height difference between the existing footpath and grassed area is retained by steel sheet piles installed vertically and horizontally. These appear to have been installed as a temporary measure. The area appears to be suffering from erosion and settlement as can be seen in photograph 10 in Appendix A.

The solid construction option is considered the best solution because it provides a long term solution to the erosion and settlement problems.

This option also enhances the aesthetics of the location because the proposed retaining wall will be tied into the existing quayside alignment.

9 Conclusions and Recommendations

In light of the above comments, the recommended option for the proposed Public Footpath ZF5 Ramps would be solid construction ramps for all 3 locations. The ramps will have a 1:12 slope in accordance with Section 3.2 of the DfT publication Inclusive Mobility. The likely overall construction budget estimate for the recommended option would be:

Location B-C	£43,760.65
Location H-I	£36,365.23
Location L-M	£45,599.24
Total Construction Cost	£125,725.12

However the total construction cost might be reduced due to savings in procuring the same contractor for all the works.

At location B-C options 2 or 3 would provide the best options when considering some of the factors for a construction scheme. However there is potential of lowering the construction costs for option 1 if solid construction is the chosen option for the other two locations. The solid construction option will have the minimal visual impact to the existing environment.

At location H-I option 2 has low capital costs compared to option 1, however extensive material testing will required at the detailed design stage which might increase capital costs.

There is only one option considered for location L-M because of the current structural arrangements and condition.

The geotechnical investigation undertaken as part of this commission indicates that the piles can be founded in the Thanet Sands which is 7.0m depth from the current topsoil. The soil parameters to be considered for the detailed design stage are in Section 5 above.

Construction of temporary access tracks for the pilling rig will be required for locations B-C and L-M.

The preliminary Ecological Report in Appendix E highlights the need for:

- An Assessment of Implication of/on European Sites

- Reptile survey during active season
- Habitat Suitability assessment to determine the presence of Great Crested Newt.

No statutory undertaker's apparatus were found during a search of the area.

Appendix A Photographs



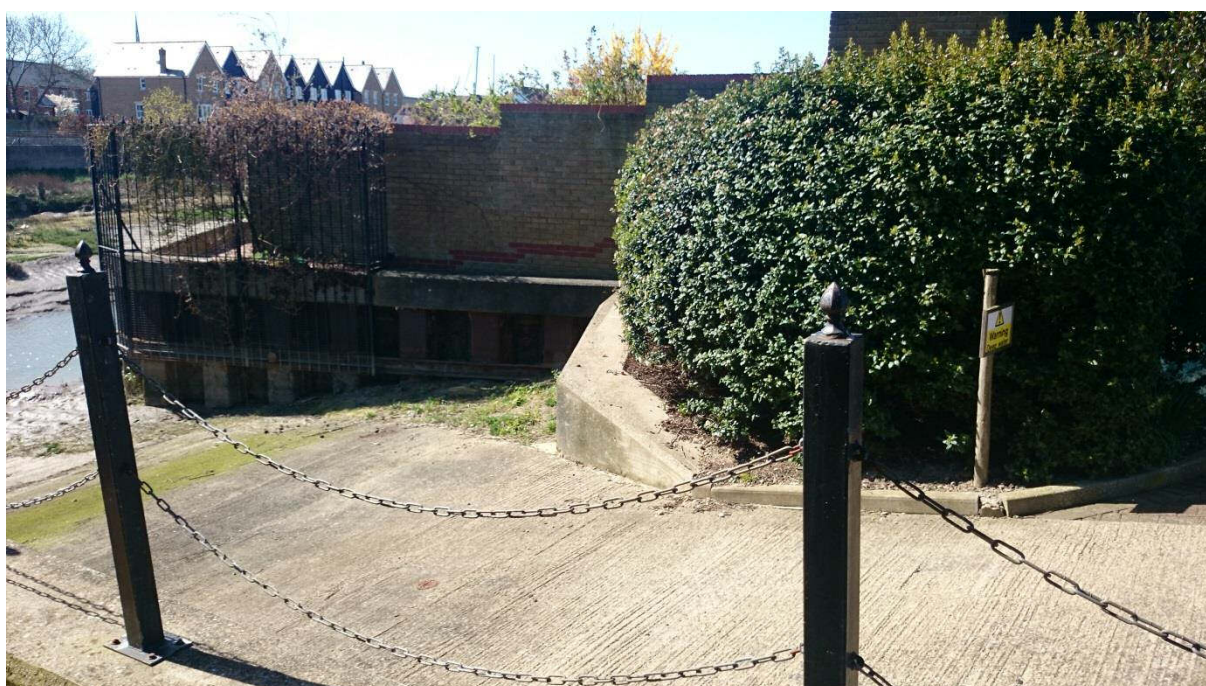
Photograph 5: View looking south showing location B-C.



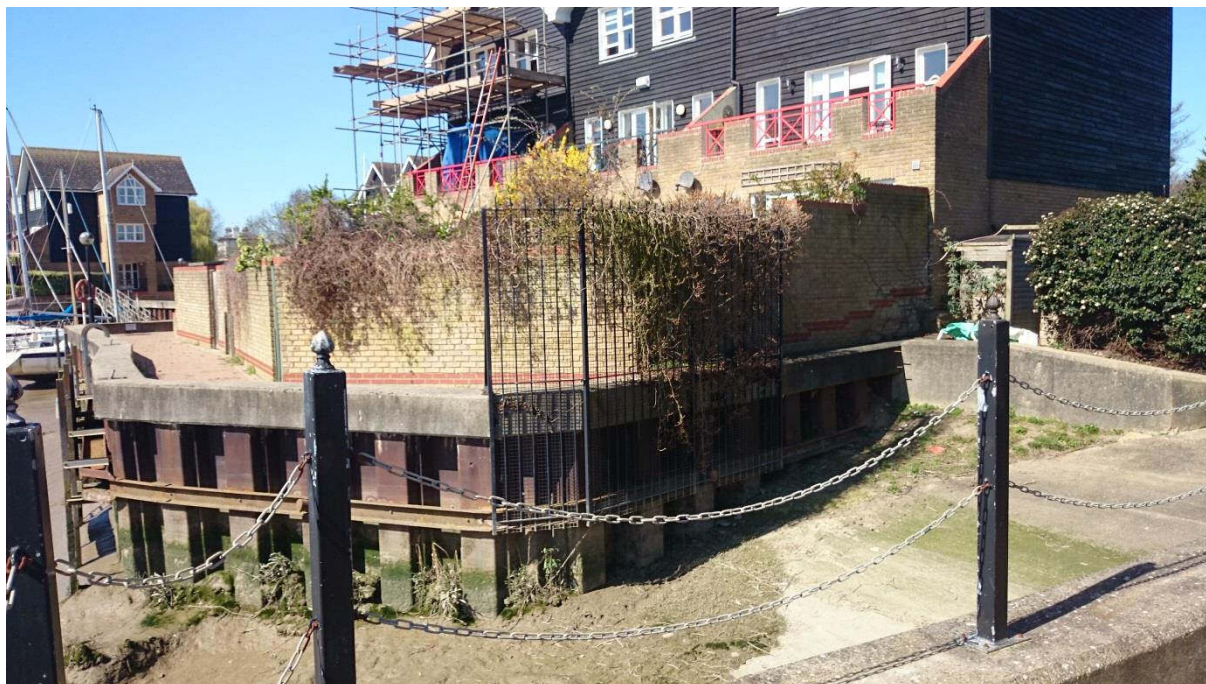
Photograph 6: View looking south showing location B-C and existing PRow.



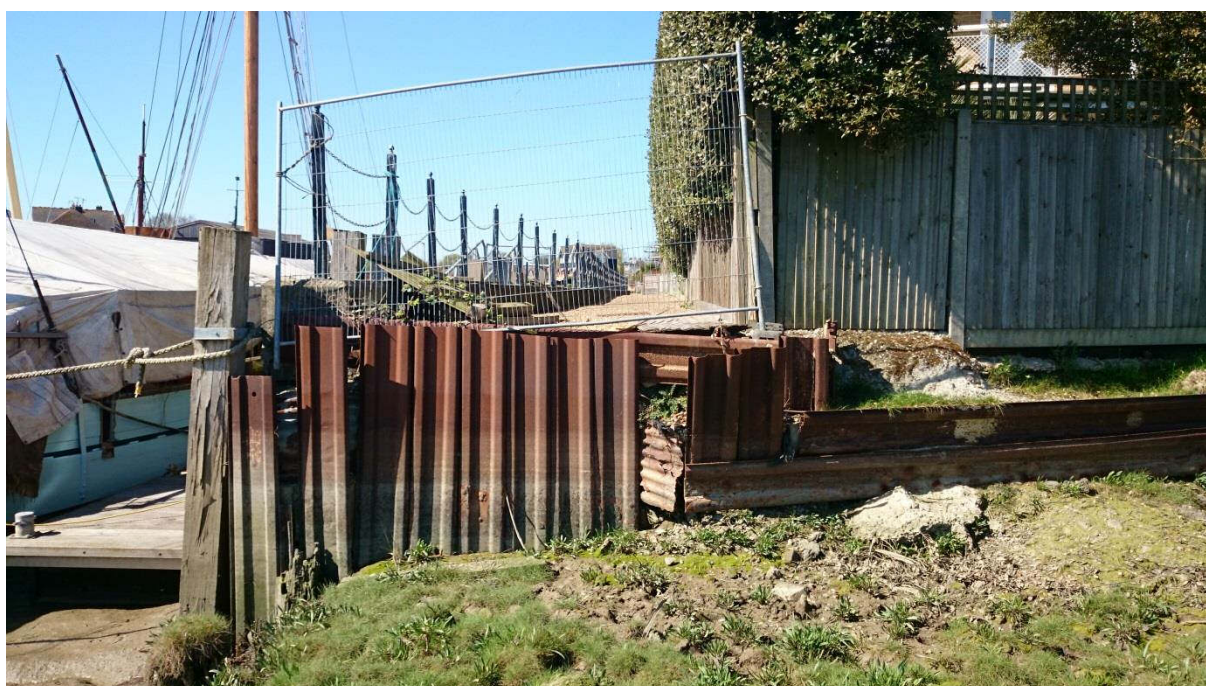
Photograph 7: View of location H-I looking west.



Photograph 8: View of location H-I looking west.



Photograph 9: View of location H-I looking west.



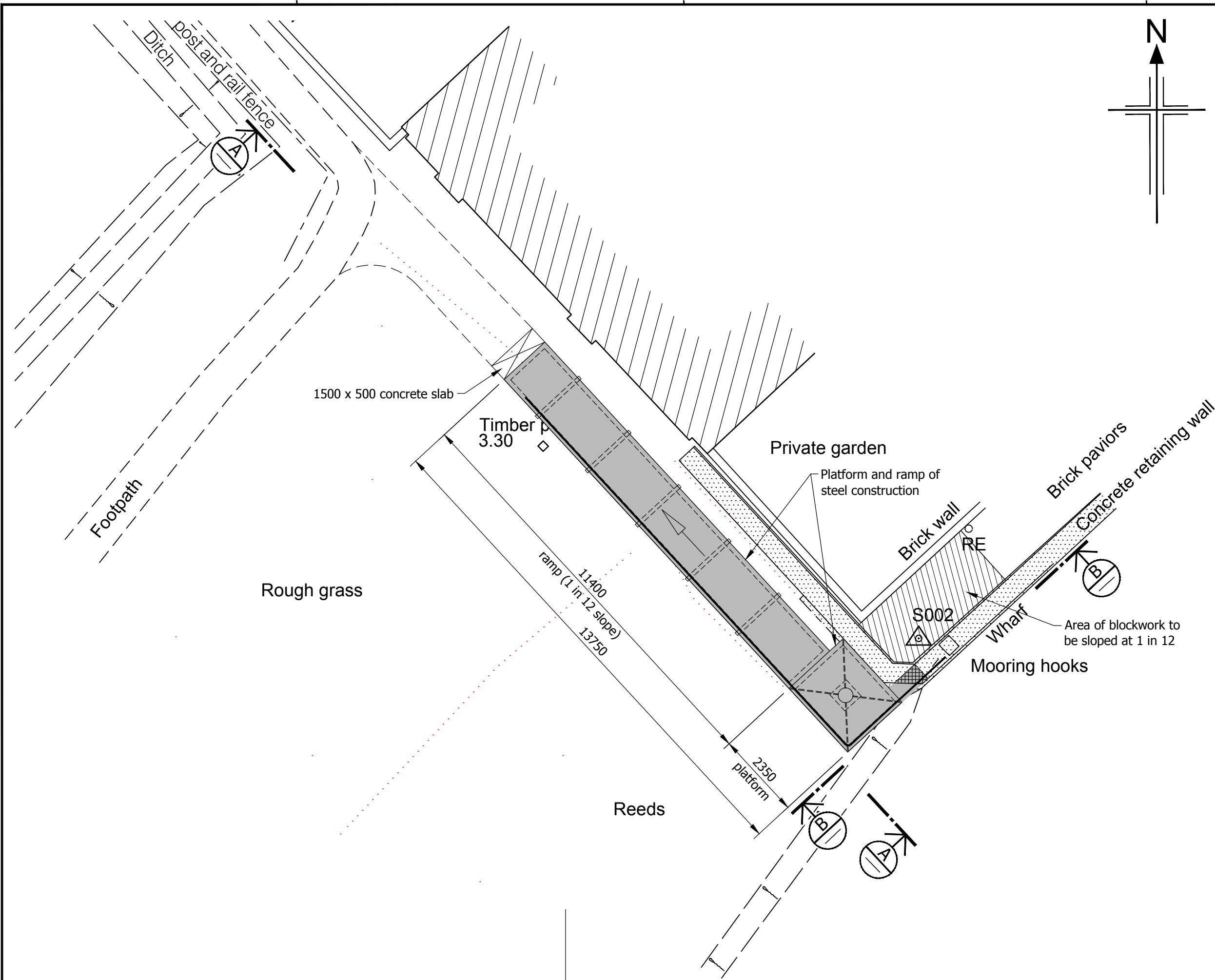
Photograph 10: View of location L-M looking west.



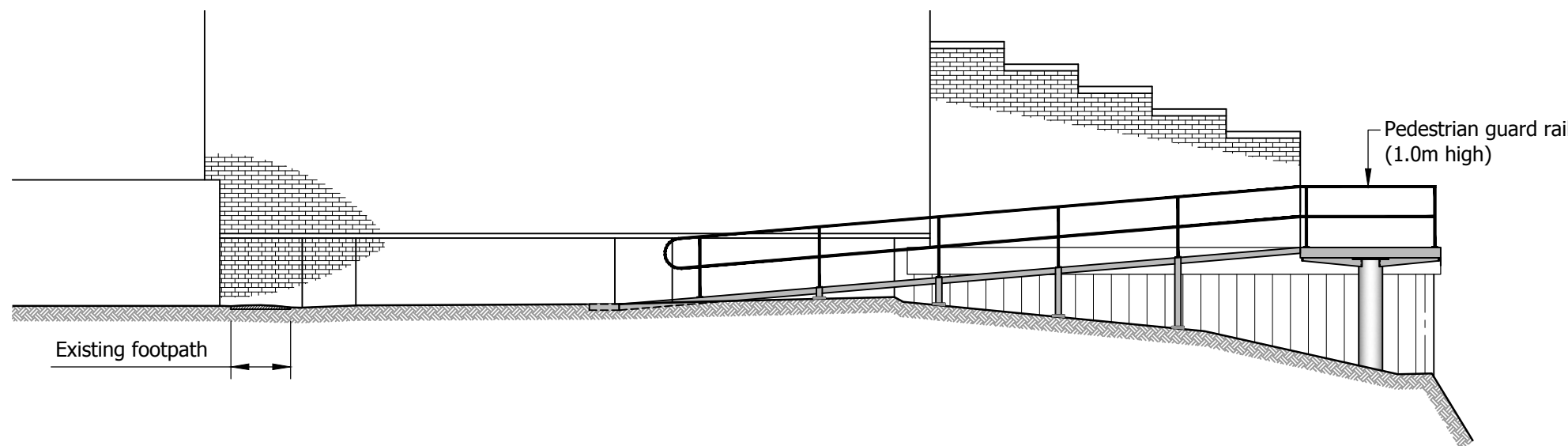
Photograph 11: View of location L-M looking west.

Appendix B Options Drawings

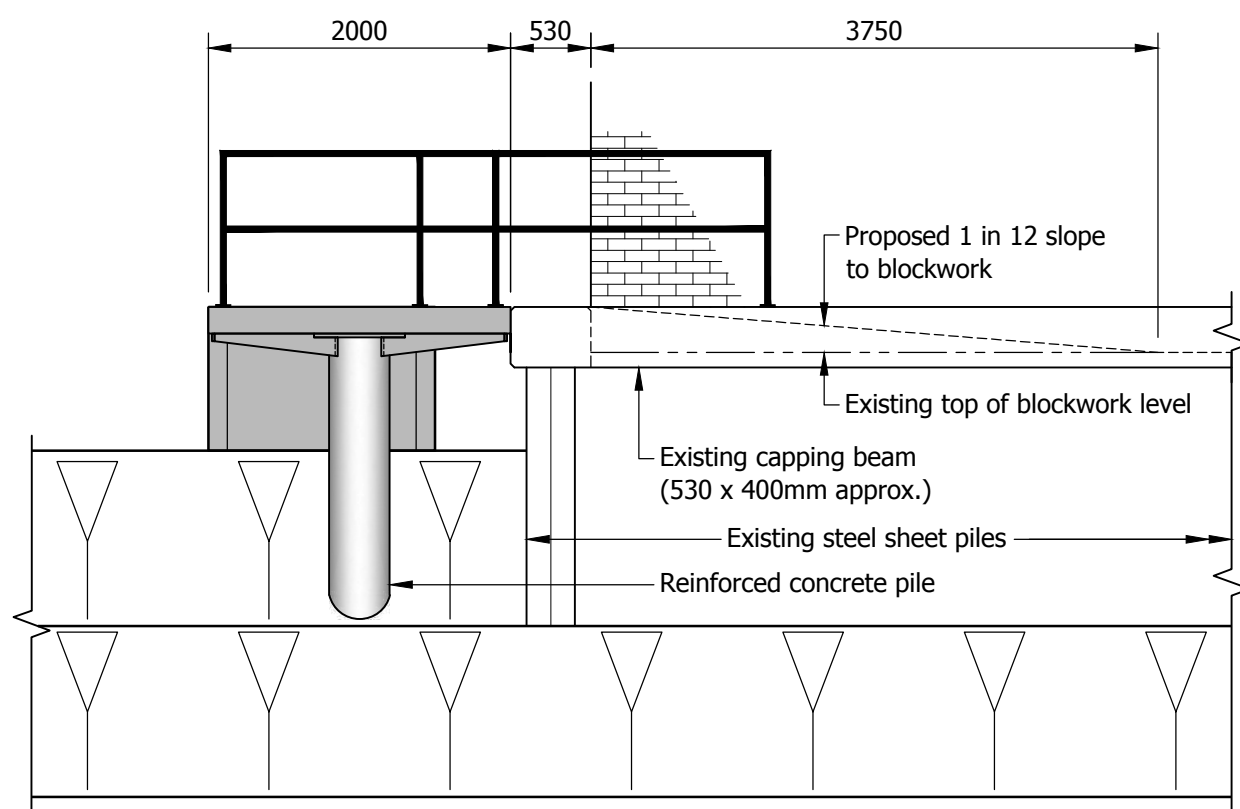
Drawing No.	Title
CO04300288/001	GENERAL ARRANGEMENT – RAMP H-I: OPTIONS 1, 2 AND 3
CO04300288/002	GENERAL ARRANGEMENT – RAMP H-I: OPTIONS 1 AND 2
CO04300288/003	GENERAL ARRANGEMENT – RAMP L-M: SOLID CONSTRUCTION



PLAN
Scale 1:100



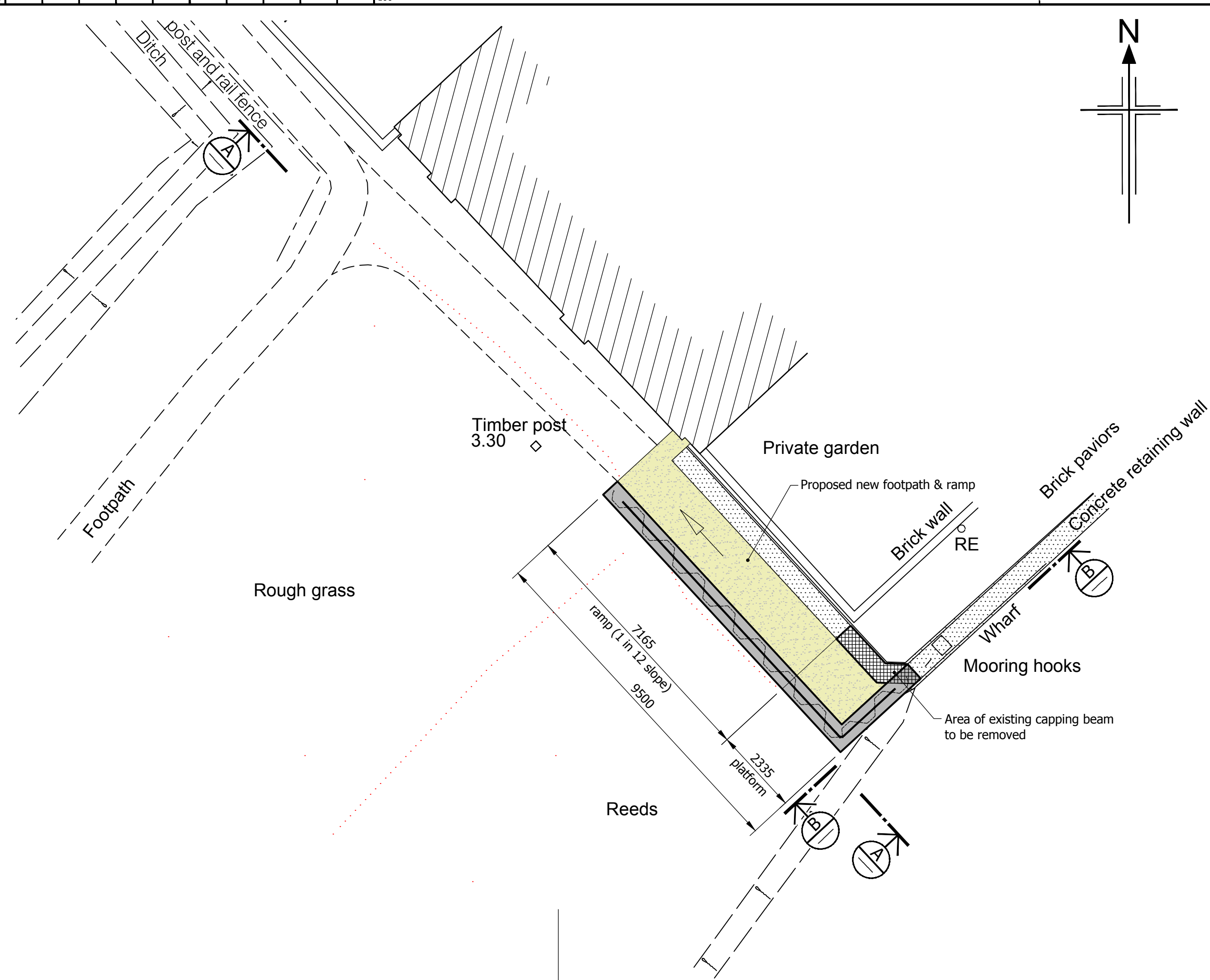
ELEVATION A - A
Scale 1:100



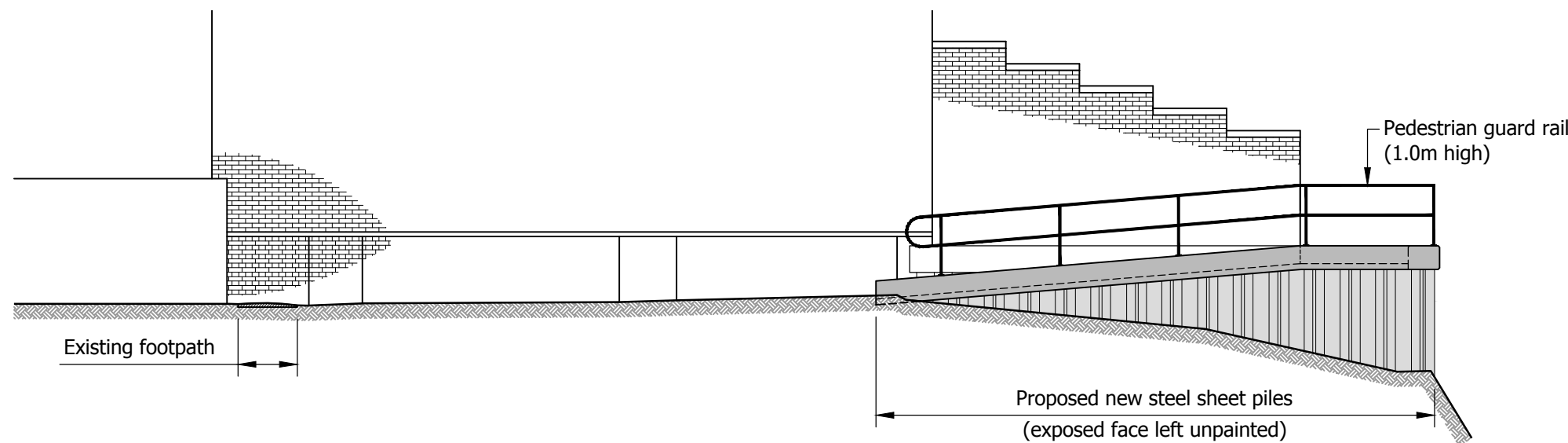
ELEVATION B - B
Scale 1:50

OPTION 1

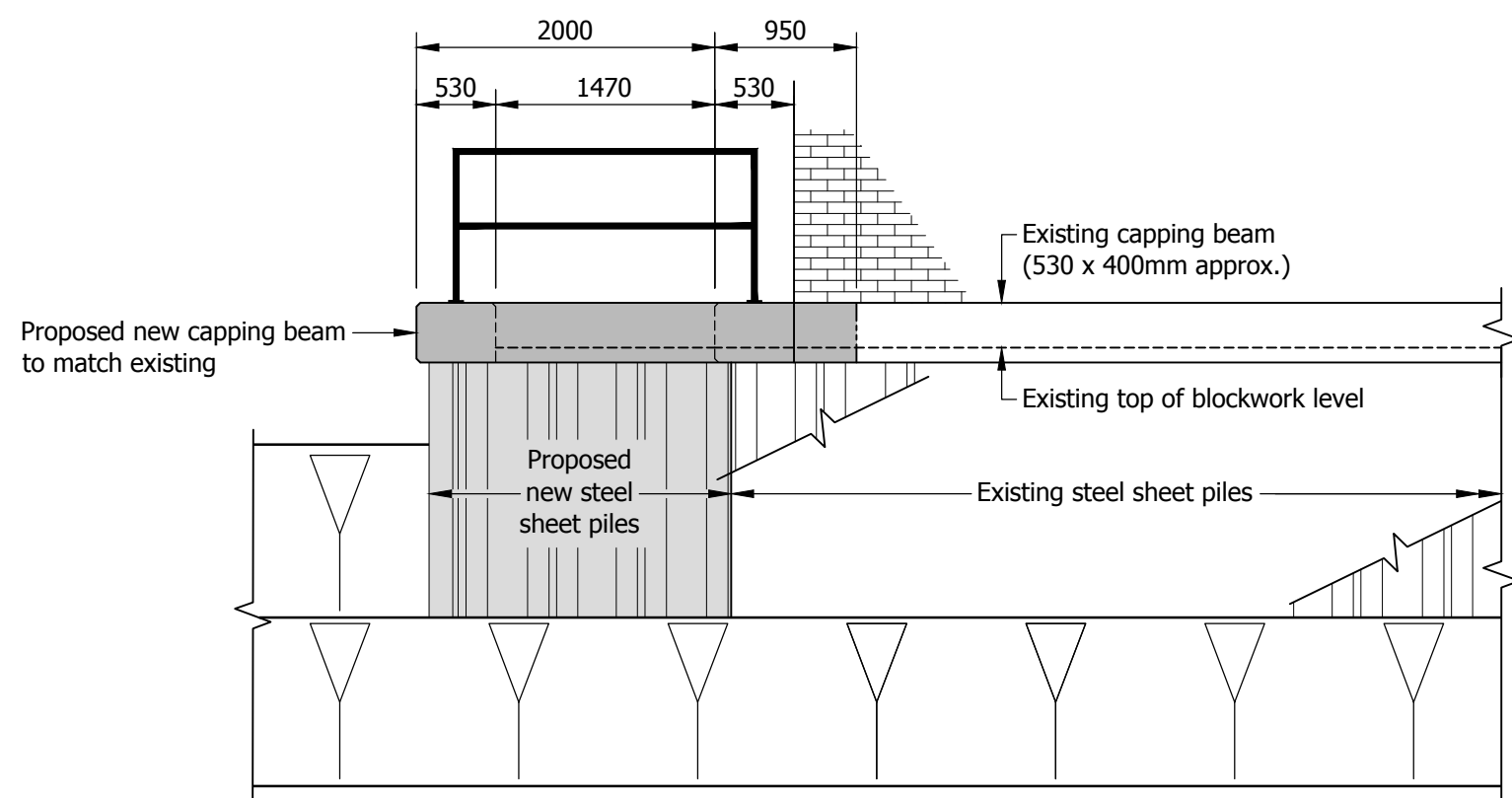
Fabricated Steel/Reinforced Concrete Platform & Ramp



PLAN
Scale 1:100



ELEVATION A - A
Scale 1:100



ELEVATION B - B
Scale 1:50

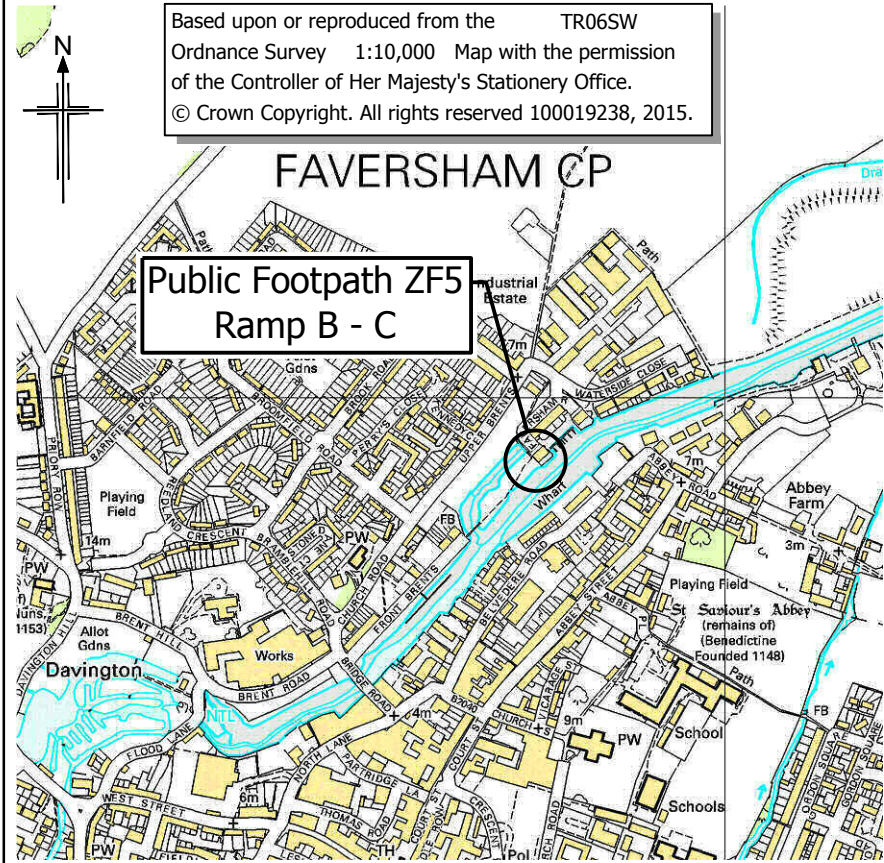
OPTION 2

Steel Sheet Piles with Capping Beam

NOTES

1. All measurements are in millimetres unless stated otherwise
2. All levels are in metres
3. Do not scale from this drawing. Use written dimensions only.

Site Location Plan OS Map Grid reference Scale 1:10,000



Rev	Revision details	Chkd	Appd	Date
Drawn:	RKA			Preliminary
Design:	WT			For Comment
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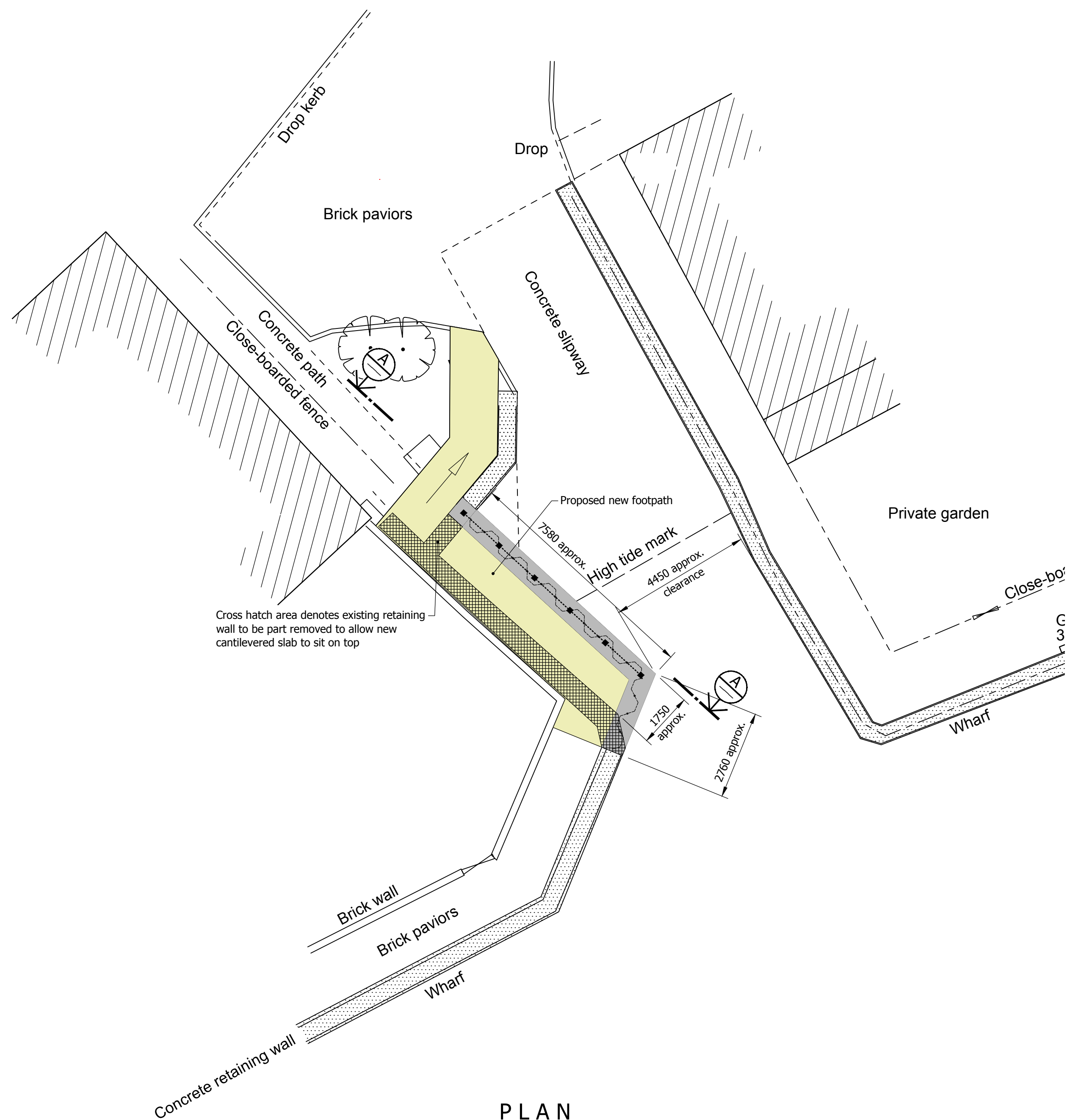


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Faversham**

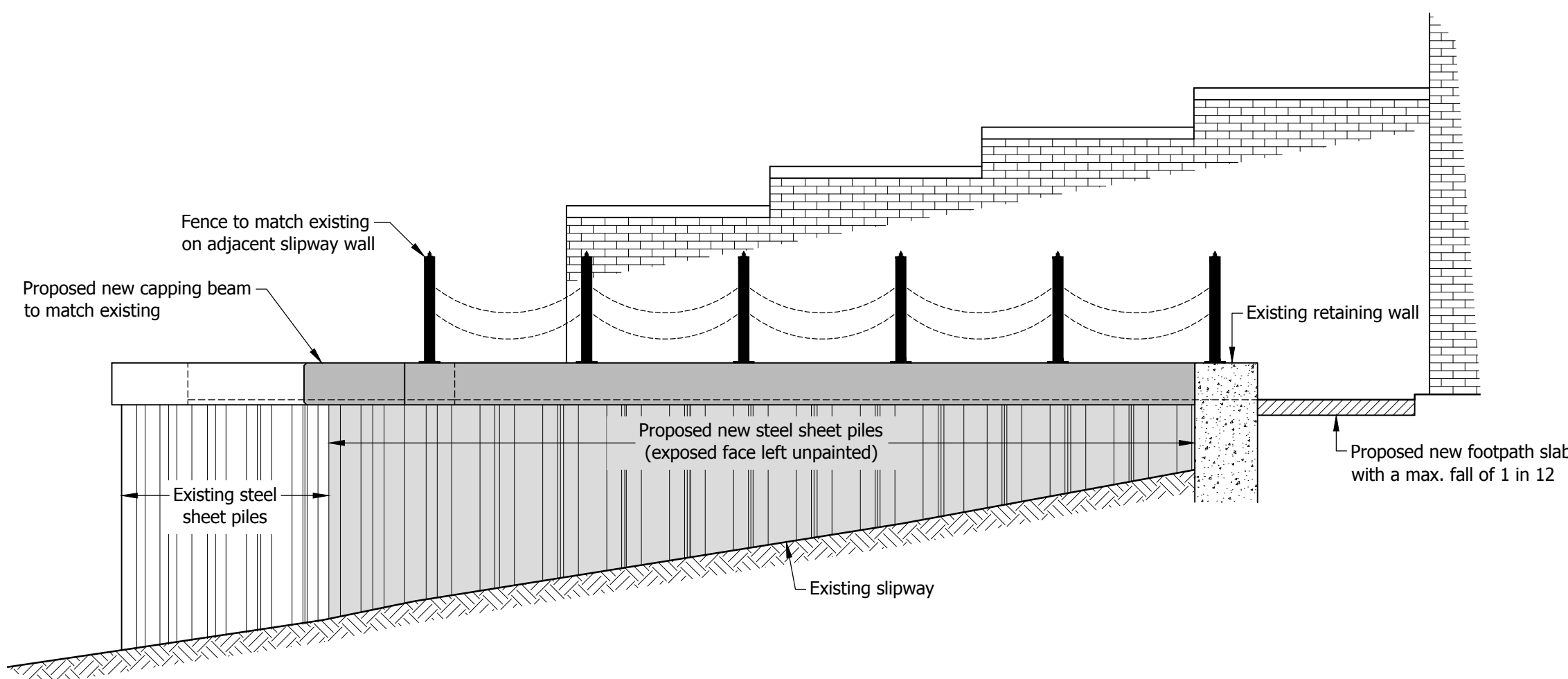
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General Arrangement
Ramp B - C
Options 1 and 2**

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Drawing No 4300288/01	Rev P0
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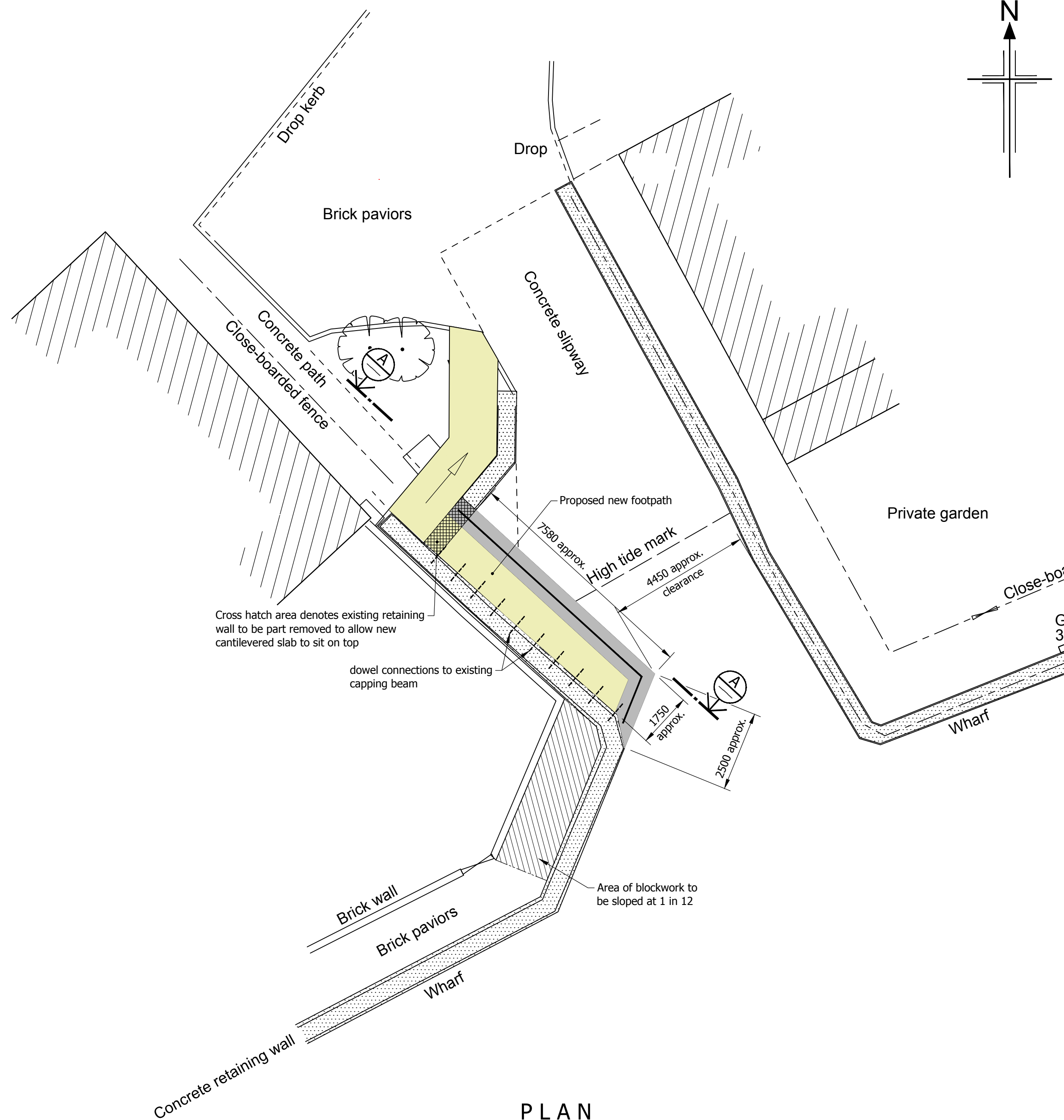


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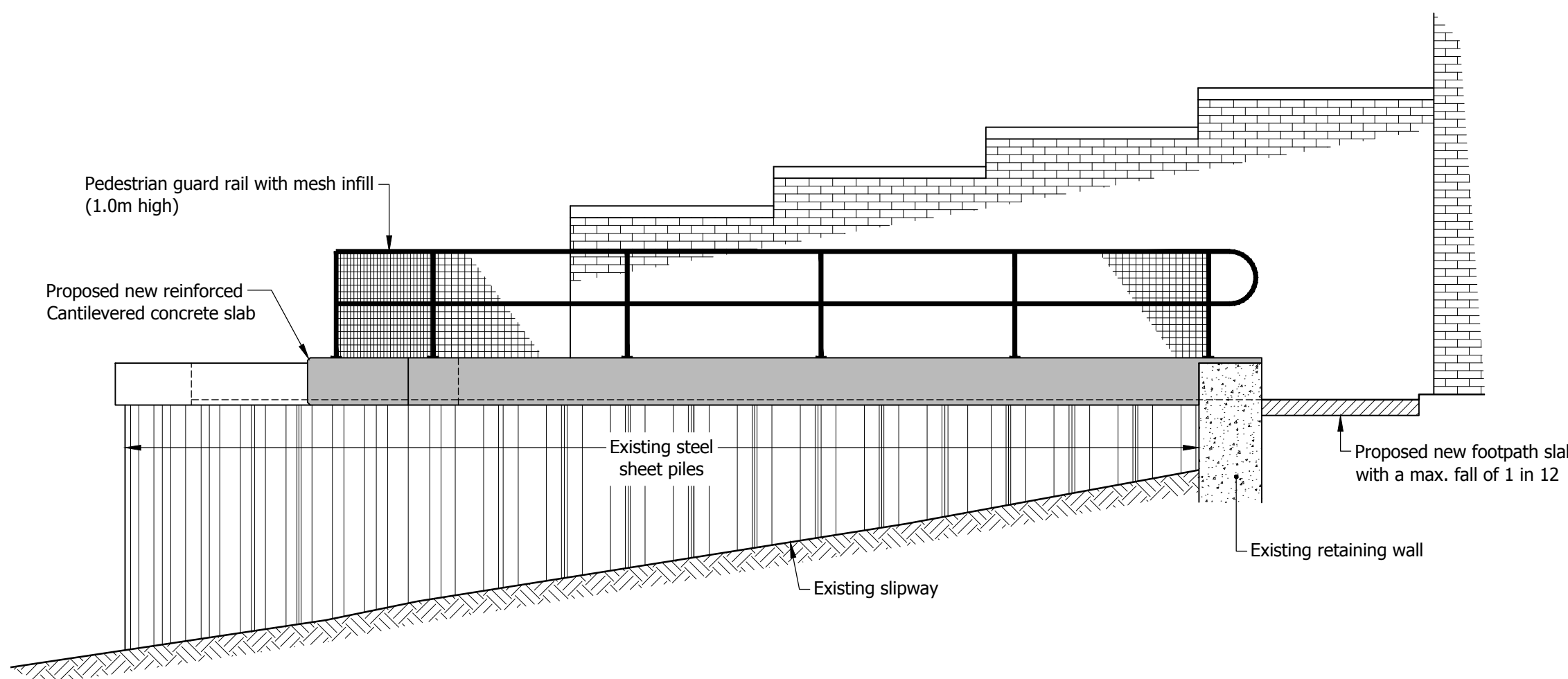


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OPTION 1
Steel Sheet Piles with Capping Beam



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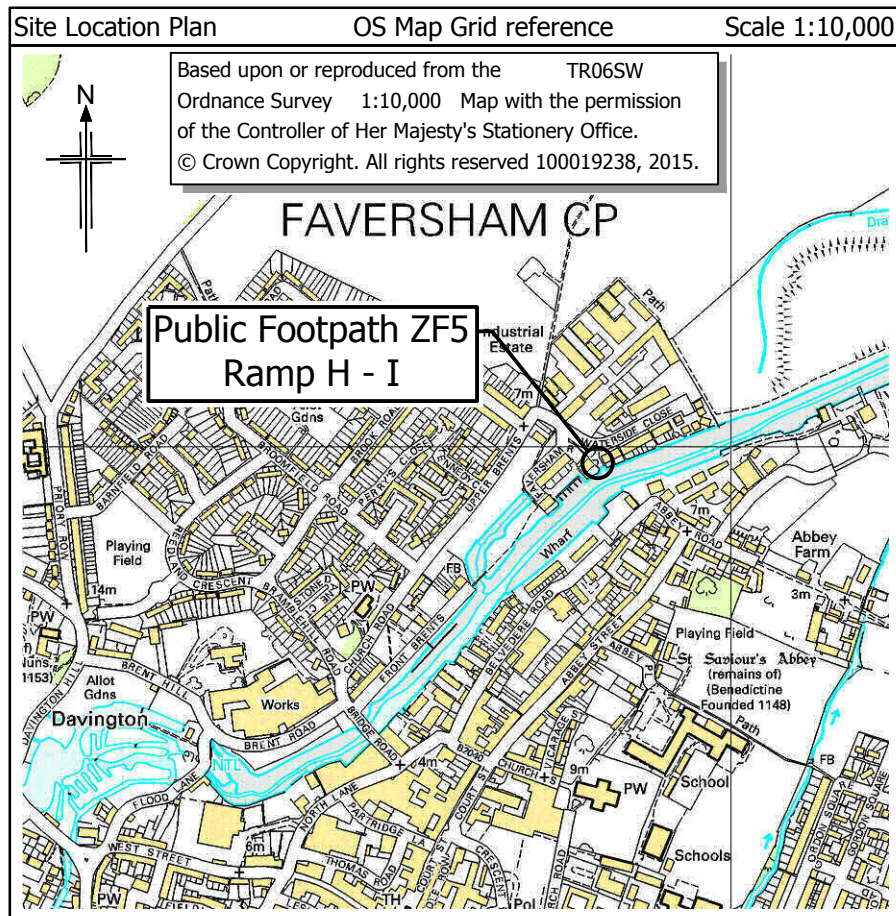


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OPTION 2
Cantilevered Reinforced Concrete Slab

NOTES

1. All measurements are in millimetres unless stated otherwise
2. All levels are in metres
3. Do not scale from this drawing. Use written dimensions only.



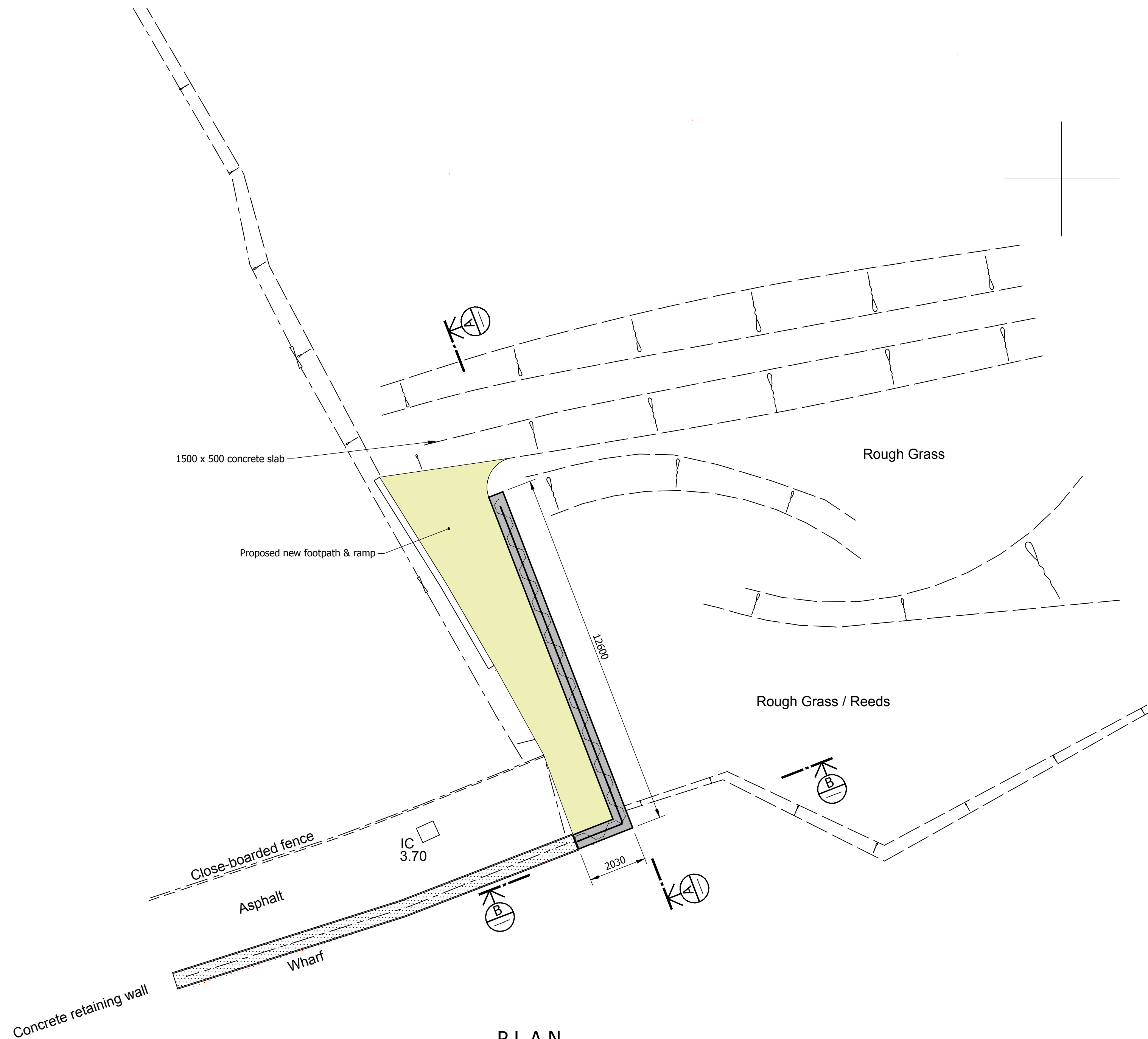
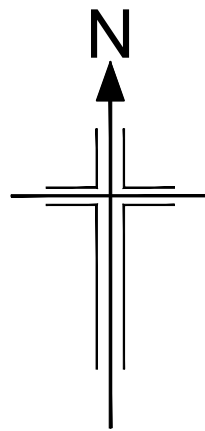
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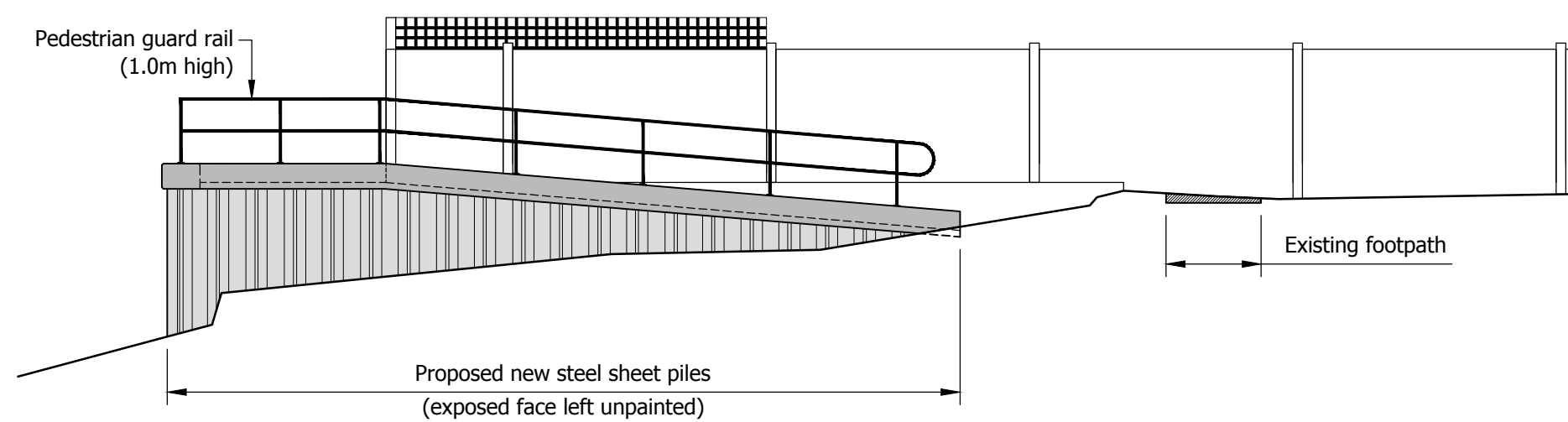
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Drawing Title	Structures General Arrangement Ramp H - I Options 1 & 2

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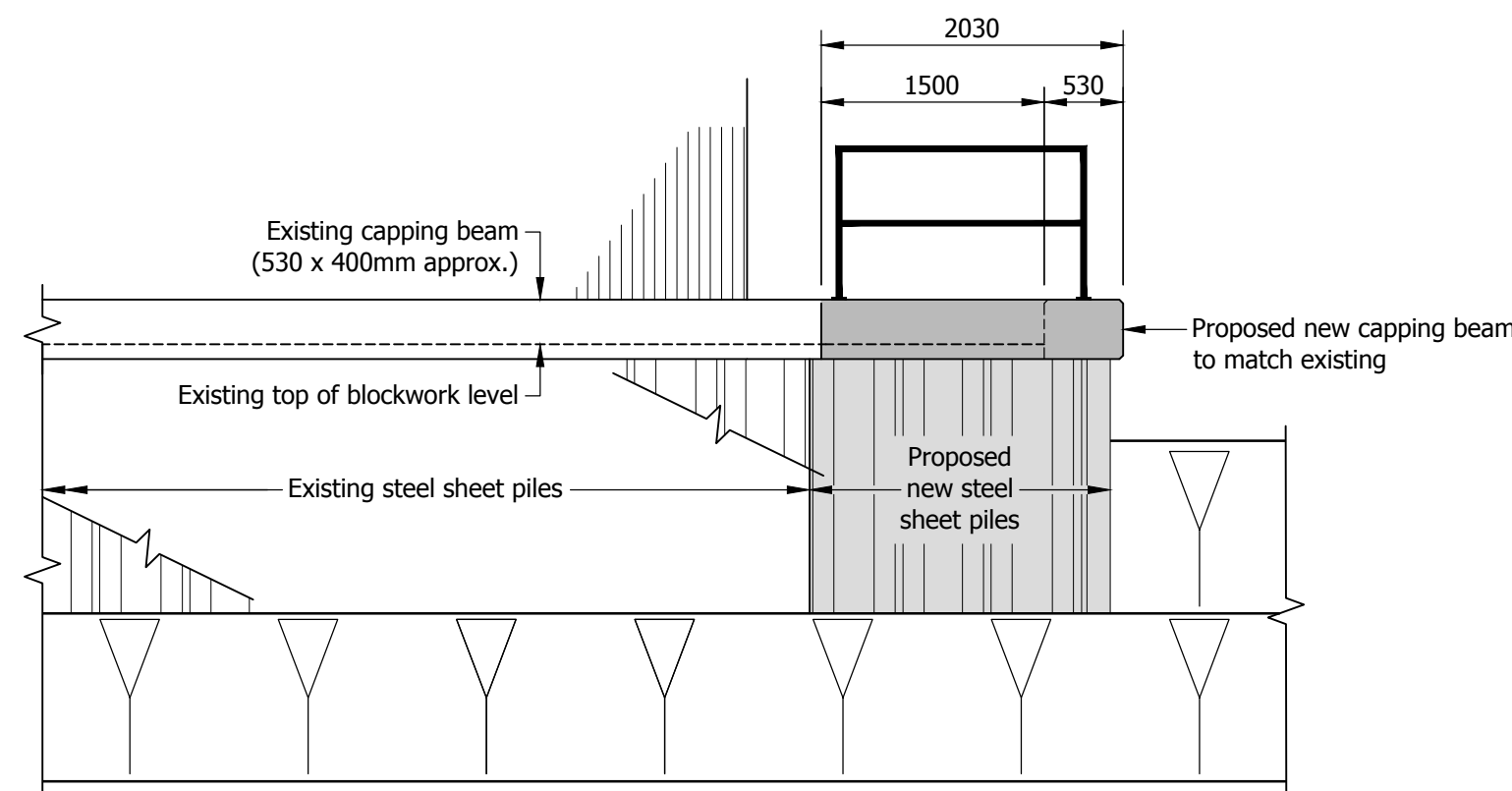
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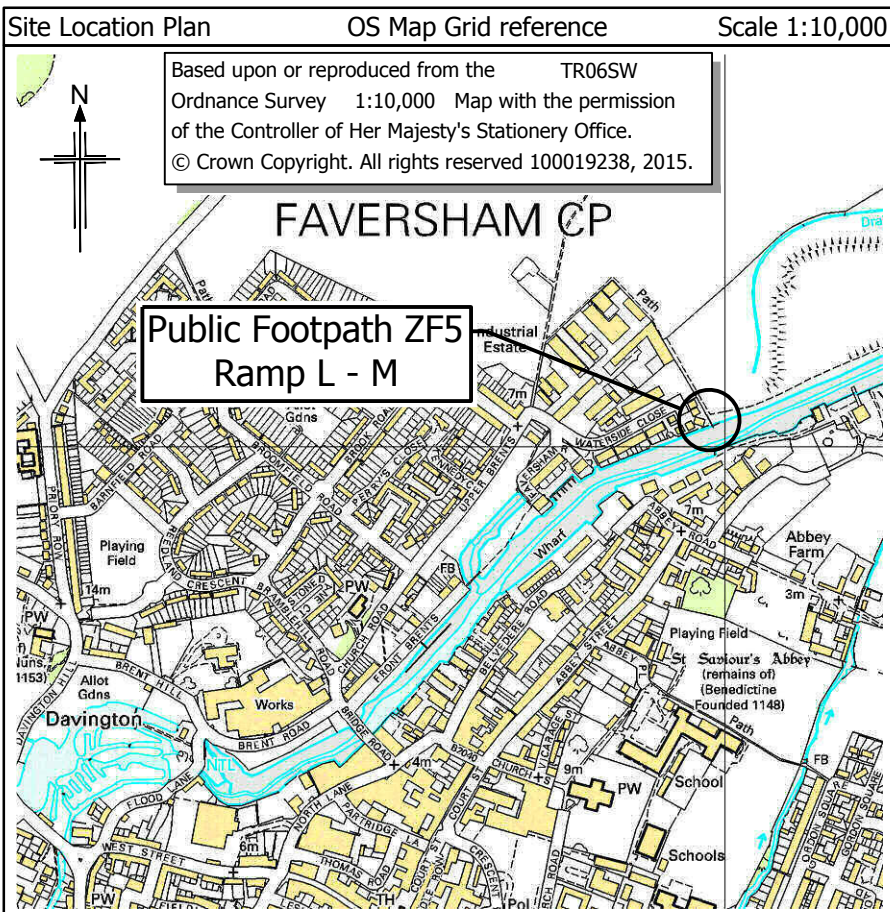
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ELEVATION B - B
Scale 1:50

NOTES

1. All measurements are in millimetres unless stated otherwise
2. All levels are in metres
3. Do not scale from this drawing. Use written dimensions only.



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Design:	TW		For Comment	
Chkd:	DH		For Tender	
Appd:	TW		For Construction	
Date:	12/10/2015		As Constructed	
			Other	



Client



Project Name

Public Footpath ZF5
Faversham

Drawing Title

Structures
General Arrangement
Ramp L - M
Steel Sheet Piles with Capping Beam

Original Drawing Size : A1	Dimensions : Millimetres
Scale : As Shown	Copyright © Amey

Drawing No
4300288/03

Rev
P0

Appendix C Geotechnical Report

Appendix D Ecology Report

Appendix E Bibliography

Waterside Close, Faversham Footpath Link Report (January 2015) – East Kent Engineering Partnership

Amey (2014) Preliminary geotechnical report – Brent Swing Bridge replacement, Faversham, Report No: CO04300238/06 Rev 0.

British Geological Survey (1976) 1:50,000 (Solid and Drift) geological map, Faversham

Historic England, (2015). Accessed on 26 September 2015. Available from <http://www.historicengland.org.uk/>

Department for Transport, (2002). Inclusive Mobility – A guide to Best Practice on Access to Pedestrian and Transport Infrastructure. London: Department for Transport

Transport Scotland, 2009. Disability Discrimination Act: Good Practice Guide for Roads. Glasgow: Scottish Government

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Preliminary Ecological Appraisal- Footpath Ramp ZF5 (Faversham Reach & Waterside Close Project)

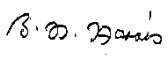


CO04300288/ ECO1

September 2015



Document Control Sheet

Project Name:	Footpath Ramp ZF5 (Faversham Reach & Waterside Close Project)
Project Number:	CO04300288
Report Title:	Preliminary Ecological Appraisal
Report Number:	ECO1

Issue Status/Amendment	Prepared	Reviewed	Approved
Rev 0	Name: Beverley Harris Signature:  Date: 27/08/15	Name: Alexander Baldwin Signature:  Date: 28/08/15	Name: Jenefer Taylor Signature:  Date: 09/09/15
	Name: Signature: Date:	Name: Signature: Date:	Name: Signature: Date:
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Appendix D **Survey Calendar**

Appendix E **Qualifying Features for Designation of EU Sites**

Appendix F **Qualifying Features for Designation of UK Sites**

1. Introduction

Background

Amey was commissioned by Kent County Council (KCC) to undertake a preliminary ecological appraisal at Faversham Reach & Waterside Close, Faversham (Footpath Ramp ZF5).

Public Footpath ZF5 is currently obstructed at Faversham Reach (refer to Figure 1- Appendix A). To resolve this obstruction and gain access along the creek-side alignment, a ramp would need to be constructed due to the difference in ground levels of approximately 2m at point B (refer to Figures 1 & 2 - Appendix A). A further ramp would need to be installed at point L (refer to Figures 1 & 2) to link into an existing public footpath (Photograph 5 - Appendix B).

At point H, a cantilever-type addition would be required to allow the passage of walkers across the slipway (ref to Figures 1 & 2 and Photograph 4).

At point F there are two options:

1. The proposed route follows existing hard-standing alongside the Creek linking up to point H.
2. The alternative route follows existing hard-standing through Faversham Reach residential area (Photograph 3 - Appendix B).

Study Area and Location

The proposed scheme is located adjacent to Faversham Creek between Waterside Close (at Ordnance Survey grid reference TR01985 62032) and Faversham Reach (at Ordnance Survey grid reference TR01751 61919)(refer to Figure 1 Site Location Plan and Environmental Designations – Appendix 1). The survey area includes the area directly adjacent to the proposed footpath and the wider area to include access point to the scheme.

The habitats along the length of the scheme and its immediate surrounding largely comprise hard-standing, rough grassland deciduous and ornamental trees, hedgerow, wet area consisting of club rush (*Scirpus maritimus*), common reed (*Phragmites australis*), tall vegetation, patches of scrub, and a runnel (inlet of water from creek) (Photograph 1-8).

At present there is one design option with an alternative route at F (refer to Figure 1 Appendix A and Photograph 3 – Appendix B).

A number of designated sites, including European Sites, are present within 2km of the proposed scheme and are also hydrologically linked via the Swale Estuary. These sites include The Swale extensions Site of Special Scientific Interest (SSSI), Special Protection Area (SPA) and Local Wildlife Site (LWS); The Swale Ramsar Site; recommended Marine Conservation Zone (rMCZ) 10 [The Swale Estuary]; and notable habitat under the Higher Level Stewardship Scheme (refer to Figure 1 & Appendix E).

Objectives

This preliminary ecological (scoping) appraisal is intended to record relevant habitats, including any that are formally designated for nature conservation and to highlight the potential for legally-protected or otherwise notable species.

This appraisal also makes recommendations for further, detailed surveys that might be required to confirm the presence of such species. This is in order to ensure that further ecological survey and advice is appropriately targeted and reflects the demands of wildlife legislation and Government nature conservation policy (refer to Appendix C for details).

Where this preliminary survey indicates that there may be impacts to such ecologically-sensitive features, a brief outline indication of likely mitigation requirements is also provided, where appropriate. However, detailed mitigation can only be confirmed once the recommended further surveys are completed.

This preliminary ecological (scoping) appraisal discusses the installation within the subject site of ramp walkways and alternative route at point F (Photograph 3- Appendix B).

Limitations

This report highlights the habitats and the potential for notable species evident on the day of the survey visit, combined with recent (unconfirmed) records obtained from third parties such as biological records centres. It does not record any ecological features that may only appear at other times of the year and therefore were not evident at the time of the visit. This includes flowering plants that are not readily identifiable prior to their flowering season.

This report deals with matters of legal significance but does not constitute professional legal advice. The Client may wish to seek professional legal interpretation of the relevant wildlife legislation cited in this document and summarised in Appendix C.

2. Methodology

Desk Study

Records of protected or otherwise notable habitats and species were obtained from the Kent and Medway Biological Records Centre (KMBRC) in July 2015. Habitats were searched for within a 2km radius of the proposed site and species were searched for within a 1km radius. These records were supplemented with internet-based resources and other local consultation where appropriate. The combined records were analysed to determine their relevance to the site and the proposed works, taking into consideration the dates and locations of each record and the sensitivity of the recorded feature to likely impacts. It should be noted that a lack of species records within an area may not reflect an actual absence of that species, but could simply be a function of limited recording/survey effort in that area.

Field Survey

The site was visited by a qualified and experienced Ecologist (Beverley Harris MCIEEM) accompanied by an assistant (Martyn King) on 17th July 2015. The weather on the day of the survey was dry and sunny with occasional cloud and a moderate wind speed. Habitats within and immediately adjacent to the proposed scheme footprint were noted and the potential for protected or otherwise notable species was assessed. Where any incidental sightings or indirect evidence of species presence was observed, this was recorded, but no detailed survey for any species was undertaken.

3. Results

SITE: Faversham Reach & Waterside Close (Footpath Ramp ZF5) site, accessed through Upper Brents, Faversham Kent ME13 7DL O.S. Grid Ref: TR 01985 62032 to TR 01751 61919 Figure ref: Figure 1		Project No. : C004300288 PROJECT NAME : Faversham Reach & Waterside Close (Footpath Ramp ZF5) SURVEY DATES: 17th July 2015 SURVEYOR: Beverley Harris	
Ecological Attributes and Status	Description:	Potential Impacts	Recommendations:
<i>(see Appendix A for legislation summary)</i>	Presence (actual or potential), level of potential (high, medium, low, negligible), distance and direction from site, locations within site, relevant habitat features, connectivity, etc.		Requirement for further survey and/or mitigation. See Appendix B for indicative survey timing.
European Sites (e.g. SPA/SAC/Ramsar designated) within 2km Internationally important and protected by law: <ul style="list-style-type: none"> • NERC Act 2006 S.41 • Conservation Regulations 2010 (as amended) 	Hydrologically linked to: <ul style="list-style-type: none"> • The Swale Estuary is within a proposed Marine Conservation Zone (rMCZ) recommended the South East England Biodiversity Forum (SEEBF, 2011). • The Swale SPA • The Swale Ramsar Site Faversham Creek hydrologically connects to The Swale. The main channel of The Swale is sub-tidal and is one of the Key Inshore Biodiversity Areas in the Balanced Seas Region identified for protection in the rMCZ to complement the intertidal habitats protected by The Swale SSSI and SPA (refer to Appendix E). The European site includes a wide variety of intertidal broad-scale habitats including areas of intertidal rock, shingle, sand and mudflats, saltmarsh and extensive grazing marshes. Wetlands provide habitats for extensive breeding and migratory birds qualifying as a Ramsar site. The site supports a number of terrestrial and marine plants species, a significant number of rare invertebrate species, and is of considerable geological importance. Please see Appendix C which details the qualifying features for designation of these EU Sites.	The proposed works should not impact on The Swale Estuary and extensions. However, care should be taken during construction to avoid pollution to Faversham Creek. There is potential for a sub-tidal inlet (runnel) from Faversham Creek (refer to Figure 1 & 2) to be impacted during construction phase. Should there be a pollution event whilst carrying out remedial works then this could affect the European sites.	Adhere to Environment Agency guidelines on pollution prevention for construction activity near to watercourses (e.g. PPG5). An Assessment of Implications of on European Sites (AIES) screening matrix will need to be completed to confirm if significant effects on The Swale are likely. Works should not encroach into these sensitive areas. However, Careful planning during construction should be taken to avoid impacting on sensitive areas.

<p>Sites of Special Scientific Interest (SSSI) designated sites within 1km</p> <p>Nationally important and protected by law:</p> <ul style="list-style-type: none"> NE Wildlife & Countryside Act 1981 (as amended) 	<p>The Swale Estuary and extensions are fully protected by SSSI</p> <p>Please see Appendix C which details the qualifying features for designation of these UK Sites.</p>	<p>As above.</p>	<p>Adhere to Environment Agency guidelines on pollution prevention for construction activity near to watercourses (e.g. PPG5).</p>
<p>Local Wildlife Sites (LWS) within 1km</p> <p>Non-statutory designation – local planning consideration</p>	<p>Abbey Fields, Faversham LWS is 450m from site.</p>	<p>No impacts are predicted on Abbey Fields LWS due to the geological barrier of Faversham Creek.</p>	<p>No required.</p>
<p>Other notable habitats</p> <p>E.g. those listed under:</p> <ul style="list-style-type: none"> NERC Act 2006 S.41 	<p>Higher Level Stewardship Scheme is within the footprint on east side of scheme. (refer to Figure 1 & 2).</p>	<p>A small area within the 'Higher Level Stewardship Scheme' will be directly impacted by the works.</p>	<p>Minimise the area of habitat impacted. Keep construction activities contained within close proximity to the scheme.</p> <p>Where habitat loss or fragmentation is unavoidable, seek to compensate through sensitive landscaping with native species.</p>
<p>Notable plants</p> <p>Some may be protected under:</p> <ul style="list-style-type: none"> Wildlife & Countryside Act 1981 (as amended) Conservation Regulations 2010 (as amended) <p>or listed under:</p> <ul style="list-style-type: none"> NERC Act 2006 UK Red Data Book 	<p>No notable plants were seen during the site visit, although this is not indicative since a botanical survey was not conducted.</p> <p>Records of notable plants provided by KMBRC, exist in the surrounding areas of site, including frogbit (<i>Hydrocharis morsus-ranae</i>), (IUCN Red List Vulnerable) divided sedge (<i>Carex divisa</i>) (UK BAP, NERC & Nationally Scarce Status), sharp rush (<i>Juncus acutus</i>) (Kent RDB1) and golden-samphire (<i>Inula crithmoides</i>)</p>	<p>The proposed development has low to moderate potential to cause damage to notable plant species during vehicle/plant movements and site clearance.</p>	<p>A botanical survey is recommended, over the summer months when the plants are in flower, to determine whether or not the notable species listed are present within the scheme footprint.</p> <p>Vigilance for rare species should be maintained, following a briefing on identification to site personnel. Minimise the area impacted. Keep construction activities contained within close proximity to the scheme.</p>

<p>Notable plants - Invasive non-native species (INNS)</p> <p>Those listed under:</p> <ul style="list-style-type: none"> Wildlife & Countryside Act 1981 (as amended) Schedule 9 	<p>No invasive non-native plants were seen during the site visit, although this is not indicative of their absence since a botanical survey was not conducted.</p>	<p>Organisations have a legal responsibility to prevent any invasive non-native plant listed in Schedule 9 of the Wildlife & Countryside Act 1981 that is growing on their premises from spreading beyond their land.</p>	<p>Maintain vigilance for INNS whilst clearing vegetation. If found, adhere to a contaminated waste disposal plan and know how to handle the plants safely.</p>
<p>Notable invertebrates / assemblages</p> <p>Some may be protected or listed under:</p> <ul style="list-style-type: none"> NERC Act 2006 UK Red Data Book 	<p>There is potential for notable invertebrate species to be present within the creek, or within the inlet of water (runnel) margin vegetation.</p> <p>The desk study returned numerous records of rare invertebrates particularly at Ham Marshes and Oare. However, there were no notable invertebrate records of species directly on site. Therefore, it is considered the potential for notable invertebrate is considered to be low.</p>	<p>Should a pollution event occur, then this is likely to have a detrimental impact on any notable invertebrates living in the creek & runnels/inlets.</p>	<p>Adhere to Environment Agency guidelines on pollution prevention for construction activity near to watercourses (e.g. PPG5).</p>

<p>Nesting birds</p> <p>Protected by law:</p> <ul style="list-style-type: none"> Wildlife & Countryside Act 1981 (as amended) <p>Some may be listed under:</p> <ul style="list-style-type: none"> NERC Act 2006 RSPB Birds of Conservation Concern 	<p>There is high potential for nesting birds to be present within various areas of the site within the scrub and tree cover (Photograph 6). There is also high potential for nesting water fowl in the water margin vegetation.</p> <p>It also provides breeding and winter habitats for important assemblages of wetland bird species.</p> <p>The Swale extensions (SPA, SSSI and Ramsar site) adjacent to the scheme provide extensive habitat of intertidal mudflats, shell beaches, saltmarshes and grazing marshes for breeding and wintering waterfowl and the majority of the records were obtained within this area.</p>	<p>The removal of habitat or vegetation clearance during the period March to August inclusive risks damaging active bird nests of common species during the main breeding season.</p> <p>Disturbance to over wintering birds in adjacent habitat (i.e. Swale extensions – Ramsar site).</p>	<p>Nesting habitat clearance should ideally take place in the months September-February, outside of the main bird breeding season. However, the works should avoid disturbing over wintering birds too.</p> <p>The extent of tree and shrub clearance should be minimised to only the area absolutely required for works access.</p> <p>If any unforeseen active birds' nests are discovered during this time then works should stop and an ecologist contacted for advice.</p> <p>If such clearance activity is required during the breeding season (March-August) then an inspection for active nests must be made within 48 hours prior to starting works. If a nest is found, works will need to be delayed at this location until the chicks have fledged.</p>
<p>Bats</p> <p>Protected by law:</p> <ul style="list-style-type: none"> Conservation Regulations 2010 (as amended) Wildlife & Countryside Act 1981 (as amended) <p>Listed under:</p> <ul style="list-style-type: none"> NERC Act 2006 	<p>North west of the Faversham Reach within a small area of amenity grassland there are two mature cracked willow trees present with low to moderate levels of bat potential (refer to Figure 2 – Photographs 9-10).</p> <p>Crack willow tree features are loose peeling bark, cracks and rot holes.</p> <p>The creek offers a commuting corridor for bats, with foraging possibilities along the water and the marginal vegetation and scrub areas.</p> <p>Five records of bat roosts and four maternity roosts exist within a 1km radius of the site.</p>	<p>Trees with bat potential may need to be cleared to carry out the remedial works, which could result in damage or destruction of a potential bat roost which would be an offence under the legislation.</p> <p>Features used by bats for navigation and foraging are not legally protected, but are nonetheless important for bat conservation.</p>	<p>Any potentially impacted trees with low or moderate bat roost potential should be subject to a daytime close inspection with torch and endoscope and should include tree-climbing if necessary. If this cannot confirm that the feature isn't a bat roost but it still has potential, then further surveys will be required. This is likely to include both dusk and dawn surveys to identify emergence and/or re-entry to a roost, and the species concerned between May to September.</p> <p>Should roosting bats be discovered, a European Protected Species (EPS) licence may be required for the development to proceed where it impacts the roost.</p>

<p>Hazel dormouse (<i>Muscardinus avellanarius</i>)</p> <p>Protected by law:</p> <ul style="list-style-type: none"> Conservation Regulations 2010 (as amended) Wildlife & Countryside Act 1981 (as amended) <p>Listed under:</p> <ul style="list-style-type: none"> NERC Act 2006 	<p>The site has negligible potential for dormouse habitation due to the relative paucity of tree and scrub cover and the isolation from other more extensive areas of scrub and woodland, due to effective barriers such as main roads, the creek, urban areas and open grassland.</p> <p>No records of hazel dormouse within 1km of the site were returned from the KMBRC data search.</p>	None predicted	None required
<p>Brown Hare (<i>Lepus europaeus</i>)</p> <p>Listed under:</p> <ul style="list-style-type: none"> NERC Act 2006 	<p>There is negligible potential for brown hare to be present within the site. Historical data recorded show three sighting in Ham Marshes, one in 1985 and two in 1992 (TR06G).</p>	None predicted	None required
<p>Hedgehog (<i>Erinaceus europaeus</i>)</p> <p>Listed under:</p> <ul style="list-style-type: none"> NERC Act 2006 	<p>There is potential for hedgehogs to be present in the habitats within the site.</p> <p>There is one record of hedgehog within 1km of the site within The Brents, Faversham (TR017 616 in 2009).</p>	There is potential to injure hedgehogs during habitat clearance operations.	<p>Maintain vigilance during site clearance operations to avoid injuring hedgehogs. If found during operations, seek advice on moving them to safe habitat nearby.</p> <p>To avoid trapped animals during construction, all deep, steep-sided trenches should be carefully covered at night or fitted with a means of escape for mammals.</p>
<p>Badger (<i>Meles meles</i>)</p> <p>Protected by law:</p> <ul style="list-style-type: none"> Protection of Badgers Act 1992 	<p>The site has negligible potential to support badgers in terms of setts, foraging and commuting routes.</p> <p>No signs of badger were identified during the scoping survey or any recorded data.</p>	None predicted	None required.

<p>Reptiles</p> <p>Protected by law:</p> <ul style="list-style-type: none"> Wildlife & Countryside Act 1981 (as amended) <p>Listed under:</p> <ul style="list-style-type: none"> NERC Act 2006 	<p>During the site visit areas were identified that are classified as good habitat for common reptiles - rough grass, tall herbs and scrub combined with varied topography. These habitats offer opportunity for reptile sheltering, foraging, basking, dispersal and hibernation.</p> <p>KRAG records reveal the presence of common reptile species (common lizard (<i>Zootoca vivipara</i>), slow worm and grass snake (<i>Natrix natrix</i>)) within 1km of the site boundary with either a high presence in adjacent habitats.</p> <p>The closest recorded reptile observation is:</p> <ul style="list-style-type: none"> Slow-worm – 360m Common lizard – 400m. Grass snake – 800m 	<p>The proposed scheme has potential to cause death or injury to common reptiles during vehicle/plant movements and site clearance. In addition to negative biodiversity effects, this could be an offence under the legislation if done with the knowledge of such impacts being likely.</p>	<p>Reptile survey to determine presence or likely absence and species composition is required. This will involve placing artificial cover objects suitable for basking along sections of the affected riverside habitat that are representative of the whole impact zone. These will need to be checked on at least 7 separate visits during the active season (April-September) when temperatures and weather are conducive to basking activity.</p> <p>If reptiles are found during these initial visits, a further 8 visits may be required to estimate the relative population size of each species.</p>
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<p>Great crested newt (GCN) (<i>Triturus cristatus</i>)</p> <p>Protected by law:</p> <ul style="list-style-type: none"> Conservation Regulations 2010 (as amended) Wildlife & Countryside Act 1981 (as amended) <p>Listed under:</p> <ul style="list-style-type: none"> NERC Act 2006 	<p>There are five ponds and three drains within 1km of the site. Krag recorded the likelihood of presence for GCN as 'possible.'</p> <ul style="list-style-type: none"> The closest pond is approximately 139m from the scheme. The closest ditch is approximately 92m from the scheme. The closest recorded GCN observation is a historical record located at Judd's Hill, 2.51km to the south-west of site. 	<p>Site clearance and other movements of plant and vehicles have potential to kill or injure great crested newts. Pollution of water bodies could have similar impacts.</p> <p>Habitat removal during site clearance and drainage carries the risk of destroying resting places for great crested newts.</p> <p>These impacts, alone or in combination, could negatively affect a great crested newt population at the local scale and would constitute offences under the legislation.</p>	<p>Ponds and ditches within 250m of the site will need to be subject to a Habitat Suitability Index (HSI) Assessment. This may allow some of the ponds to be scoped-out of detailed survey based on their condition, leaving a short-list for further surveys if required.</p> <p>The further, detailed surveys involve four separate visits to the ponds and ditches to determine presence or likely absence of GCN. Two of these must take place between mid-April and mid-May. Where GCN are found through these four visits, then another two visits are required for a population size-class estimate, and one of these must be in mid-April to mid-May.</p> <p>If great crested newts are present and likely to be impacted, then a detailed mitigation strategy will need to be developed to inform a European Protected Species (EPS) licence application to Natural England. Licenced mitigation may involve trapping and translocation of great crested newts to a pre-prepared receptor site in the wider locality.</p>
<p>Water vole (<i>Arvicola amphibius</i>)</p> <p>Protected by law:</p> <ul style="list-style-type: none"> Wildlife & Countryside Act 1981 (as amended) <p>Listed under:</p> <ul style="list-style-type: none"> NERC Act 2006 	<p>During the site visit a cursory search for water voles was carried out along the runnel. No obvious feeding signs, mammal burrows or tracks were observed during the ecological appraisal.</p> <p>There is low potential for water vole occupation within the runnel located within the site. The sub-tidal inlet of part saline waters flowing from Faversham Creek is unsuitable.</p> <p>Previous records from the KMBRC data search showed two observations located (Grid reference TR06G) in 1976 and 2000.</p>	<p>None predicted</p>	<p>No survey required.</p>



<p>Otter (<i>Lutra lutra</i>)</p> <p>Protected by law:</p> <ul style="list-style-type: none"> • Conservation Regulations 2010 (as amended) • Wildlife & Countryside Act 1981 (as amended) <p>Listed under:</p> <ul style="list-style-type: none"> • NERC Act 2006 	<p>The aquatic habitats throughout the site have potential for otter occupation. However, otters are known to be very scarce in Kent and there is limited evidence that they are currently present within this area.</p> <p>Previous records from the KMRBC data search showed no historical record of an otter within 1km of the site.</p>	<p>None predicted</p>	<p>No survey required.</p>
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4. Summary Recommendations

The following recommendations have been made in Section 3 based on the results of this preliminary study. These should be implemented with full consideration of wildlife legislation described in Appendix C and seasonal restrictions shown in Appendix D.

European Sites - Adhere to Environment Agency guidelines on pollution prevention for construction activity near to watercourses (e.g. PPG5).

An Assessment of Implications of on European Sites (AIES) screening matrix will need to be completed to confirm whether or not the scheme will have significant effects on the Swale SPA.

Sites of Special Scientific Interest (SSSI) - Adhere to Environment Agency guidelines on pollution prevention for construction activity near to watercourses (e.g. PPG5).

Local Wildlife Sites (LWS) - Adhere to Environment Agency guidelines on pollution prevention for construction activity near to watercourses (e.g. PPG5).

Where loss or fragmentation of terrestrial habitat is unavoidable, seek to compensate through sensitive landscaping with native species.

Other habitats – Higher Level Stewardship Scheme - Minimise the area of habitat impacted. Keep construction activities contained within close proximity to the scheme.

Where habitat loss or fragmentation is unavoidable, seek to compensate through sensitive landscaping with native species.

Notable plants - Invasive non-native species (INNS) - Maintain vigilance for INNS whilst clearing vegetation. If found, adhere to a contaminated waste disposal plan and know how to handle the plants safely.

Notable invertebrates / assemblages - Adhere to Environment Agency guidelines on pollution prevention for construction activity near to watercourses (e.g. PPG5).

Nesting birds - Nesting habitat clearance should ideally take place in the months September-February, outside of the main bird breeding season. Disturbance should be kept to a minimal any impact to over wintering birds.

The extent of tree and shrub clearance should be minimised to only the area absolutely required for works access.

If any unforeseen active birds' nests are discovered during this time then works should stop and an ecologist contacted for advice.

If such clearance activity is required during the breeding season (March-August) then an inspection for active nests must be made within 48 hours prior to starting works. If a nest is found, works will need to be delayed at this location until the chicks have fledged.

Bats - Any potentially impacted trees with low or moderate bat roost potential (refer to Figure 2 – Photographs 9-10) should be subject to a daytime close inspection with torch and endoscope and should include tree-climbing if necessary. If this cannot confirm that the feature is not a bat roost but it still has potential, then further surveys will be required. This is likely to include both dusk and dawn surveys to identify emergence and/or re-entry to a roost, and the species concerned.

Should roosting bats be discovered, a European Protected Species (EPS) licence may be required for the development to proceed where it impacts the roost.

Hedgehog - Maintain vigilance during site clearance operations to avoid injuring hedgehogs. If found during operations, seek advice on moving them to safe habitat nearby.

To avoid trapped animals during construction, all deep, steep-sided trenches should be carefully covered at night or fitted with a means of escape for mammals.

Reptiles - Reptile survey to determine presence or likely absence and species composition is required. This will involve placing artificial cover objects suitable for basking along sections of the affected riverside habitat that are representative of the whole impact zone. These will need to be checked on at least 7 separate visits during the active season (April-September) when temperatures and weather are conducive to basking activity.

If reptiles are found during these initial visits, a further 8 visits may be required to estimate the relative population size of each species.

Great crested newt - Due to the nearest pond being 138m and a drain located 98m from site it is recommend a Habitat Suitability Assessment be undertaken within 250m of the scheme. This may allow some of the ponds to be scoped-out of detailed survey based on their condition, leaving a short-list for further survey surveys if required.

The further, detailed surveys involve four separate visits to the ponds and ditches to determine presence or likely absence of GCN. Two of these must take place between mid-April and mid-May. Where GCN are found through these four visits, then another two visits are required for a population size-class estimate, and one of these must be in mid-April to mid-May.

Project Name Footpath Ramp ZF5 (Faversham Reach & Waterside Close Project)



Document Title Preliminary Ecological Appraisal

If great crested newts are present and likely to be impacted, then a detailed mitigation strategy will need to be developed to inform a European Protected Species (EPS) licence application to Natural England. Licenced mitigation may involve trapping and translocation of great crested newts to a pre-prepared receptor site in the wider locality.

Project Name Footpath Ramp ZF5 (Faversham Reach & Waterside Close Project)



Document Title Preliminary Ecological Appraisal

References

- Kent and Medway Biological Records Centre (July 2015).
- All UK (and individual UK countries) legislation can be viewed at:
<http://www.legislation.gov.uk/browse>
- Google Maps. 2015. [online] Available from: <https://www.google.co.uk/maps>
- Magic Map Application. 2015. [online] Available from:
<http://magic.defra.gov.uk/MagicMap.aspx>
- Grid reference finder [online] Available from <http://gridreferencefinder.com/>

Project Name Footpath Ramp ZF5 (Faversham Reach & Waterside Close
Project)



Document Title Preliminary Ecological Appraisal

Appendix A - Figures

Figure 1 - Site Location & Designations

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Project)



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Figure 2

Appendix B - Photographs



Photograph 1 — Showing proposed ramp location at point B (see red arrow).



Photograph 2 – View from point B looking towards point A showing vegetation (refer to Figure 1 & 2)



Photograph 3 – Showing alternative route point F (of Public Footpath ZF5 (see red arrow)).



Photograph 4 – Showing point H - A cantilever type addition would be required to allow the passage of walkers across the slipway (see red arrow).



Photograph 5 – Showing point L location for second ramp to join up with existing footpath (note: this section is in the Higher Level Stewardship Scheme).



Photograph 6 – Area of scrub far southwest of scheme providing suitable habitat for nesting birds, hedgehogs and reptiles.



Photograph 7 – View from point H looking northwards showing existing gravelled walkway alongside creek.



Photograph 8 –View southwest of scheme looking eastwards showing amenity grass and vegetated / wet area.



Photograph 9 –View of tree (1) with potential bat roost located on the amenity grassland (refer to Figure 2)



Photograph 10 –View of tree (2) with potential bat roost located on the amenity grassland (refer to Figure 2)

Appendix C - Wildlife Legislation and Policy

The Wildlife & Countryside Act 1981 (as amended)

Provides for designation and protection of Sites of Special Scientific Interest (SSSI), which are areas that represent the most valuable habitats in the UK for nature conservation.

The Act creates the following offences:

- To intentionally kill, injure, or take any wild bird or their eggs or nests (with exception to species listed in Schedule 2). Special penalties are available for offences related to birds listed on Schedule 1, for which there are additional offences of disturbing these birds at their nests, or their dependent young.
- To intentionally kill, injure, or take, possess, or trade in any wild animal listed in Schedule 5, and interference with places used for shelter or protection, or intentionally disturbing animals occupying such places.
- Certain methods of killing, injuring, or taking wild animals listed in Schedule 6.
- To pick, uproot, trade in, or possess (for the purposes of trade) any wild plant listed in Schedule 8, and prohibits the unauthorised intentional uprooting of such plants.
- The release of certain non-native animals and the planting of plants listed in Schedule 9.

It also provides a mechanism making any of the above offences legal through the granting of **licences** by the appropriate authorities.

Conservation of Habitats and Species Regulations 2010 (as amended)

The principal means by which the European Habitats Directive is transposed in England and Wales.

Provide for the **designation** and protection of a network of 'European Sites' (also termed Natura 2000), including Special Areas of Conservation (SAC) and Special Protection Areas (SPA).

Regulation 41 creates the following **offences** relating to European Protected Species (EPS):

- deliberately capture, injure or kill any wild animal of a European Protected Species;
- deliberately disturb animals of any such species in such a way as to be likely to:

- impair their ability to survive, breed, rear or nurture their young, hibernate or migrate, or
- significantly affect the local distribution or abundance of the species to which they belong;
- deliberately take or destroy the eggs of such an animal; or
- damage or destroy a breeding site or resting place of such an animal.

The Regulations also make it an offence (subject to exceptions) to deliberately pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 5.

However, the actions listed above can be made lawful through the granting of **licences** (European Protected Species Licence) by the appropriate authorities (Natural England in England). Licences may be granted for a number of purposes, but only after the appropriate authority has determined that the following regulations are satisfied:

- the works under the licence are being carried out for the purposes of 'preserving public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment'.
- there is 'no satisfactory alternative'
- the action 'will not be detrimental to the maintenance of the population of the species concerned at favourable conservation status in their natural range'.

To apply for a licence, the following information is required:

- The species concerned.
- The relative size of the population at the site (note this may require a survey to be carried out at a particular time of the year).
- The impact(s) (if any) that the development is likely to have upon the populations.
- What measures will be conducted to mitigate for the impact(s).

Natural Environment & Rural Communities (NERC) Act 2006

Section 40 of NERC carries an extension of the earlier CRow Act biodiversity **duty to public bodies and statutory undertakers** to ensure due regard to the conservation of biodiversity. Section 41 requires the Secretary of State, as respects England, to publish a list of species and habitats which are of 'principal importance for the purpose of conserving biodiversity'. These lists generally reflect the species and habitats previously listed under the UK Biodiversity Action Plan.

The Protection of Badgers Act 1992

This makes it an offence to wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so and to intentionally or recklessly interfere with a sett. Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it.

Under Section 10 (1)(d) of the Protection of Badgers Act 1992, a licence may be granted by Natural England to interfere with a badger sett for the purpose of development, as defined by Section 55(1) of the Town & Country Planning Act 1990.

The Wild Mammals (Protection) Act 1996

The Wild Mammals (Protection) Act 1996 makes it an offence for any person to mutilate, kick, beat, nail or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering.

The Animal Welfare Act 2006

This imposes a duty of care on anyone responsible for an animal to take reasonable steps to ensure that the animal's needs are met. This means that a person has to look after the animal's welfare and ensure that it does not suffer. The Act says that an animal's welfare needs include:

- a suitable environment;
- a suitable diet;
- the ability to exhibit normal behaviour patterns;
- any need it has to be housed with, or apart from, other animals; and
- protection from pain, suffering, injury and disease.

With regards to development, this may have implications when capture and translocations of animals are proposed.

The Hedgerows Regulations 1997

The Hedgerows Regulations 1997 were introduced to protect important hedgerows from destruction. However the legislation does not apply to any hedgerow that is within or marking the boundary of the curtilage of a dwelling house.

For the Regulations to be applicable, the hedgerow must be at least 20 metres in length or, if less than 20 metres, it must meet another hedgerow at each end. A hedgerow is deemed to be important if it is more than thirty years old and meets at least one of the criteria listed in Part II of Schedule 1 of the Regulations.

If a hedgerow which qualifies under the Regulations is to be removed, the landowner must contact the Local Planning Authority (LPA) in writing by submitting a hedgerow removal notice. The LPA then has a period of 42 days to decide whether or not the hedgerow meets the importance criteria of the regulations.

National Planning Policy Framework

This framework replaces Planning Policy Statement 9: Biodiversity and Geological Conservation (PPS 9) (ODPM 2005b) and sets out the view of central Government on how planners should balance nature conservation with development. One of the key principles of the NPPF is:

The NPPF states that development plan policies and planning decisions should be based upon up-to-date information about the environmental characteristics of their areas, including biodiversity. It also states that the aim of planning decisions should be to prevent harm to biodiversity conservation interests and to 'promote the preservation, restoration and re-creation of priority habitats, ecological networks and the recovery of priority species'.

Where determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principals; 'if significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused'; and, 'planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss'.

This means that full ecological surveys should be carried out and suitable mitigation measures proposed prior to any planning application being submitted.

Biodiversity 2020: A strategy for England's wildlife and ecosystem services

This biodiversity strategy for England builds on the Natural Environment White Paper and the earlier UK Biodiversity Action Plan. It provides a comprehensive picture of how Government is implementing our international and EU commitments and sets out the strategic direction for biodiversity policy up to 2020. Its mission is to:

"halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people."

In relation to planning and development its priority is to:

"take a strategic approach to planning for nature within and across local areas. This approach will guide development to the best locations, encourage greener design and enable development to enhance natural networks. We will retain the protection and improvement of the natural environment as core objectives of the planning system."

Appendix D - Survey Calendar

	Months											
Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Great Crested Newt	Hibernation		Pond surveys	Pond surveys		Pond surveys	Habitat Suitability Assessment only				Hibernation	
Reptiles	Hibernation		Limited activity	Artificial refuge surveys			Reduced basking time		Artificial refuge surveys	Limited activity	Hibernation	
Bats	Hibernation roost survey				Summer roost & activity surveys						Hibernation roost survey	
	Roost potential and close inspections of roosts possible all year. Trees are best inspected (for potential) in winter.											
Nesting Birds	No or low nesting activity		Increased nesting activity						No or low nesting activity			
Botanical				Reduced flowering	Main flowering season			Reduced flowering				

Key to timing:

Optimal survey period
Sub-optimal survey period
Surveys unreliable



NOTE: Timings and activity shown is indicative and may vary depending on weather and region. Some surveys may require licences.

Always consult an Amey ecologist for advice.

Appendix E - Qualifying Features for Designation of EU Sites

The Swale Estuary rMCZ no 10

Marine Conservation Zone : Selection Assessment Document

Version and Issue date Amendments made V1.0 07.09.11 Draft final recommendations refined by the RSG and Local Groups in July 2011 and finalised by the RSG 2/3 August 2011.

1. Site name - The Swale Estuary rMCZ no 10

2. Site centre location ETRS89 N51 22' 7.491" E0 55' 48.876" N51 22.125' E0 55.815'

3. Site surface area 5105 ha 51.05 km²

4. Biogeographic region Southern North Sea

5. Features proposed for designation within the Swale Estuary ¹

Feature type Feature name Area / No. of records

Feature type	Feature name	Area / No. of records ²
Broad-scale habitats	A1.3 low energy intertidal rock	0.61 km ²
	A3.3 low energy infralittoral rock	0.96 km ²
	A5.2 subtidal sand	9.23 km ²
	A5.3 subtidal mud	6.84 km ²
	A5.4 subtidal mixed sediments	13.53 km ²
Habitat FOCI	Blue mussel beds	0.21 km ²
	Peat and clay exposures	0.74 km ²
	Rossworm (<i>Sabellaria spinulosa</i>) reef	625.67m ²
	Sheltered muddy gravels	11 records
	Subtidal sands and gravels	0.24 km ²
Species FOCI Low mobility	Native Oyster (<i>Ostrea edulis</i>)	2 records
Species FOCI High mobility	European Eel (<i>Anguilla anguilla</i>)	n/a

6. Features within the Swale Estuary not proposed for designation ³

Feature type Feature name Comments

Feature type	Feature name	Comments
Broad-scale habitats	A1.1 High energy intertidal rock	Small areas
	A1.2 Moderate energy intertidal rock	Small areas
	A2.2 Intertidal sand and muddy sand	Small areas
	A2.3 Intertidal mud	Fully protected by The Swale SSSI
	A2.5 Coastal saltmarshes/saline reedbeds	Fully protected by The Swale SSSI
	A2.6 intertidal sediments (aquatic angiosperms)	Fully protected by The Swale SSSI
	A5.1 Subtidal coarse sediment	Not occurring (on boundary)
	Mosaic of A2.3, A2.5	Fully protected through The Swale SSSI and SPA
Habitat FOCI	Seagrass beds	Fully protected by The Swale SSSI
Species FOCI High mobility	Smelt (<i>Osmerus eperlanus</i>)	Only a very few individuals
	Undulate Ray (<i>Raja undulata</i>)	None occurring within the site

1 Sources of information relating to these features are listed in Section 13.

2 Areas have been calculated according to spatial GIS data and are indicative only. A "record" is a survey point where a single individual, population or habitat has been found.

3 Features may occur in both tables (sections 5 & 6) if the rMCZ overlaps with an existing MPA where the features are protected.

7. Site summary

The site is considered to be a highly biodiverse area, and is important as a spawning and nursery ground for various species. The main channel of the Swale Estuary is subtidal mud and subtidal mixed sediments, which have been identified for protection in the rMCZ to complement

the intertidal broad-scale habitats protected by The Swale SSSI and SPA. Subtidal sands and gravels at The Street in Whitstable have also been identified for protection. The site also contains intertidal and subtidal Blue Mussel beds, native oysters, peat and clay exposures (specifically of London Clay), Rossworm (*Sabellaria spinulosa*) reef and good examples of sheltered muddy gravels.

Although the RSG agreed to put this site forward for its conservation importance, there was no consensus at Local Group level and considerable opposition from some sectors, particularly the private landowners and oyster fisheries that own a large proportion of the site. The draft conservation objectives potentially affect various activities but a better understanding of the distribution of the features proposed for protection and the activities that might impact on them is essential in order to discuss appropriate management.

8. Detailed site description

The following is a description of the site based on extracts from literature held by the Balanced Seas Project and stakeholder correspondence. It does not constitute a complete literature review or ecological description of the site.

This site covers the Swale Estuary from the point at which it meets the Medway Estuary, south of the Isle of Sheppey, seawards to the end of The Street at Whitstable. The Estuary is made up of vast saltmarshes and grazing marshes (Medway and Swale Estuary Partnership, 2003) supporting breeding wildfowl and scarce plant and invertebrate species (Halcrow Ltd, 2010). The broad-scale habitat information is provided by the UKSeaMap/MESH data (JNCC 2011 v.7), which shows the site contains low energy intertidal and infralittoral rock, subtidal sand, mud and mixed sediments (see Broad-scale habitats map). The most significant source of sediment to the

Swale and Medway estuaries is from the offshore supply of fine suspended material from the Great Thames Embayment. High rates of sea level rise & low rates of sediment supply may lead intertidal mudflat habitats to suffer from erosion where defences or high land constrain landward upward movement of the shoreline (Halcrow Group Limited, 2010).

As explained at the Local Group meeting (July 2011), the blue mussel beds were historically commercially important and the reason for their decline is unclear, but it may be due to a combination of contaminants from wood pulp factories in the past and change of habitat from sand to clay due to storm events. Some stakeholders believe that the habitat is no longer suitable for the beds to re-establish.

The national contract data (Seeley *et al.* 2010 MB102 2B) seriously under-estimates the extent of the distribution of native oysters in the Swale, where there are important commercial fisheries (see FOCI map). Native oyster stocks in Kent have however, like the mussels, diminished drastically over the last two centuries (Bayes, 2009), due to a variety of factors including the pest, the slipper limpet *Crepidula fornicata* and possibly habitat and water quality change. A large proportion of the native oyster beds are privately owned (there are four private oyster fisheries) and these companies have invested considerable resources over time in trying to improve stocks (North Kent Local Group meeting, July 2011).

The Wildlife Trust has provided data on peat and clay exposures additional to the national contract data, and has highlighted some important areas where this feature is London Clay (see Figures 1-3).

The Environment Agency collated biotope data from various regional surveys, which were used to locate sheltered muddy gravel locations and to show that this example of the habitat is particularly biodiverse. Subtidal sands and gravels are found on the boundary of the site where

it joins the Medway. The national contract data (Seeley *et al.* 2010 MB102 2B) gives two data points for Rossworm reef (*Sabellaria*) but some local stakeholders have considerable doubts about these records, and a DONG Energy representative said that a 2010 survey of the mouth of the Swale did not reveal any *Sabellaria* here. The Wildlife Trust however considers this site to have suitable habitat for *Sabellaria* and that this should be protected (North Kent Local Group meeting, July 2011). The EA data showed that mud habitats in deep water occur in the Swale, but stakeholders felt that the estuary was too shallow to qualify for this description and did not recommend this feature for protection here (RSG 8, 20.04.11). Subtidal sands and gravels occurring adjacent to The Street at Whitstable were specifically listed for protection.

The Wildlife Trust has collated records of species and habitats that are important to the southeast region and their dataset shows that this site contains rare algal communities on shingle, as well as Peacock worm (*Sabella pavonina*) and important sea squirt beds (see Southeast Features map). The estuary is one of the Key Inshore Biodiversity Areas in the Balanced Seas Region recommended as an MCZ by the South East England Biodiversity Forum (SEEBF, 2011). A variety of bird species use this site as one of the complex networks of 'refuelling' sites as they migrate to wintering grounds further south (Medway and Swale Estuary Partnership, 2003). Stakeholders have noted that the area would benefit from general protection for spawning and nursery grounds but no specific information was provided for individual species.

9. Site boundary

The landward boundary of the site is described by the Mean High Water mark right up to the point at which the estuary meets the Medway (this site abuts rMCZ 6 Medway Estuary). The seaward extent begins to the east of The Street at Tankerton and follows a straight line to the north west to meet the navigational buoy at the end of The Street, and westwards to meet Columbine Spit buoy before meeting the land at the groynes along Shellness Road on the Isle of Sheppey.

10. Conservation objectives

Individual conservation objective forms for each feature can be found in Appendix 1. For a sitebased summary of the conservation objectives and proposed management measures, please see Section 15.

11. Sites to which this site is related

This site overlaps The Swale SSSI and SPA, the Outer Thames Estuary SPA, and two Ramsar sites: The Swale, and Thanet Coast and Sandwich Bay (not visible on map).

12. Supporting documentation (information relating to ENG features only)

Information	Type of information	Source	Name of survey	Date
Broad-scale habitats	Modelled and survey data	JNCC V.7 Combined UKSeaMap and MESH	Combined	June 2011
Blue mussel beds	Survey	Kent Wildlife Trust		2005-2010
Blue mussel beds	Survey	National contract data, DEFRA MB102 2C	JNCCMNCR10000453	1993
Peat and clay exposures	Survey	National contract data, DEFRA MB102 2C		11/02/2009 And 19/12/2004
Peat and clay exposures	Survey	Kent Wildlife Trust		2005-2009
Subtidal sands and gravels	Survey	National contract data DEFRA MB102 2C		13/09/2006
Rossworm (Sabellaria spinulosa) reef	Survey	Kent Wildlife Trust (Sourced from: Environment Agency database)	Thames Array Benthic Grab Survey 2004	31/12/2004
Sheltered muddy gravels	Survey	Sourced from: Environment Agency database	Swale Habitats Directive Survey Habitats Directive Survey North Kent Marshes Estuarine Invertebrate Surveys	04/04/03
Sheltered muddy gravels	Survey	Sourced from: Environment Agency database	Swale Habitats Directive Survey	05-Dec-01
Native oyster (O.edulis)	Survey	National contract data, DEFRA MB102 2B		01/01/1955 And 14/12/2003
European eel (Anguilla Anguilla)	Survey	National contract data, DEFRA MB102 2B	CEFAS	

13. References (additional information can be found in the Bibliography)

BAYES, J. 2009. *Shell Fish Production and Problems*. Seasalter Shellfish (Whitstable) Ltd, Whitstable. Unpublished report.

SEELEY, B., LEAR, D. HIGGS, S. NEILLY, M. BILEWITCH, J. EVANS, J. WILKES, P. & ADAMS, L. 2010. *Accessing and Developing the Required Biophysical Dataset and Data Layers for Marine Protected Areas Network Planning and Wider Marine Spatial Planning Purposes: Mapping of species with limited mobility (Benthic species). (MB102 Task 2B)*. DEFRA, London.

SEELEY, B., HIGGS, S., LEAR, D., EVANS, J., NEILLY, M., CAMPBELL, M., WILKES, P., ADAMS, L., 2010. *Accessing and Developing the Required Biophysical Dataset and Data Layers for Marine Protected Areas Network Planning and Wider Marine Spatial Planning Purposes. Report No 16: Mapping of Protected Habitats (MB102 Task 2C)*. DEFRA, London.

DP World. 2010. London Gate Port & The Marine Environment

MEDWAY SWALE ESTUARY PARTNERSHIP. 2010. *Medway Estuary and Swale Shoreline Management Plan*. Halcrow Group Ltd, Swindon.

MEDWAY SWALE ESTUARY PARTNERSHIP. 2003. *Bird Atlas : Medway & Swale Estuary*. The Medway Swale Estuary Partnership, Gillingham.

MEDWAY SWALE ESTUARY PARTNERSHIP. 2003. *Environmental Atlas : Medway & Swale Estuary*. The Medway Swale Estuary Partnership, Gillingham.

SOUTH EAST ENGLAND BIODIVERSITY FORUM (SEEBF) 2011. *Key Inshore Biodiversity Areas in the Balanced Seas Region for Recommendation as Marine Conservation Zones*. Letter and list to RSG and Balanced Seas Project Team, 22 Nov 2011.

14. Stakeholder support for the site

At the LG meeting in July 2011, no consensus was reached on the acceptability of an rMCZ here. It was agreed that the general health of the estuary had declined and that efforts to improve this had not been successful. The wildlife sector felt that an MCZ was the best opportunity to remedy this but other stakeholders felt that a better understanding of the causes of the decline is needed first. Private land owners and oyster fisheries have major concerns about possible restrictions to their activities.

The RSG as a group reached consensus that this site should be put forward in their final recommendations. The Medway and Swale Estuary Partnership provides a useful stakeholder forum to continue discussions about this site. Individual sectors wishing to note their support or concerns about the site recorded the following at the final RSG meeting in August 2011; their comments have been transcribed verbatim from the form that they completed:

SECTOR ORGANISATION COMMENT for The Swale Estuary rMCZ 10

Yachting RYA

Support subject to feature verification and, if recover, voluntary code of conduct on anchoring. MMO to verify, including in relation to anchoring on private seabed. If recover, depends on voluntary code.

Kite Surfing

British Kite Surfing Association Supported.

Sea Angling

Not support recover but would support maintain with code of conduct. Site not supported locally needs more local consultation.

Ports

Any overlap with Whitstable Harbour's dredge needs to be checked.

Local Fisheries Representatives

Little support will be gained from fisheries reps on the basis something may occur.

Fishing - under 10s (static gear) NUTFA (Tick)

Fishing - FPO, beam trawling

I have no real knowledge of this area, or expertise, but fisheries sector overriding principle is that "current activities must be allowed to continue".

Fishing - Over 10s, FPO, trawling sector (under and over 10m) Gilson Co. Not in best interest of fishing industry.

Shipping Chamber of Shipping Cannot support potential impacts on anchoring activity which is part of safe navigation and low-carbon transport. Also concerned re possible restrictions on expansion of maritime transport (via dredging).

Birds RSPB

Support site. Support 'recover' for blue mussel beds. Support 'recover' for Sabellaria + suggest this should be the CO for the supporting broadscale habitat too.

Wildlife Trusts Hampshire Wildlife Trust

I support this site but the CO for the BSH should be recover to support the recover CO for Sabellaria.

Marine ecology Seasearch

Strongly support this site for ecological importance. There needs to be recognition that habitat FOCI are reliant on underlying broadscale habitat, so CO needs to be recover for both, not just the FOCI at points where recorded.

Marine Wildlife Marine Conservation Society

Support site. There should also be a recover objective for subtidal sand, mud and mixed sediments.

IFCA Kent & Essex IFCA

General support.

Heritage and Archaeology English Heritage

Support if I+E (possibly on peat) research allowed.

15. Site summary of conservation objectives (COs) and proposed management measures

A conservation objective (CO) is a statement describing the desired quality of the feature. Existing

MPAs in the UK use the term *Favourable Condition* to represent the desired state of their features.

Some pressures caused by human activities may stop the feature attaining favourable condition if present at sufficient intensity.

MAINTAIN means that, the *stated levels of activity* currently occurring on the feature are considered acceptable, but features will be monitored and restrictions may have to be introduced if the condition declines.

RECOVER means that restrictions may be necessary on the activity causing the pressure, in order to allow the feature to recover to favourable condition. It does not necessarily mean that the activity will be prohibited, as other mitigation measures might be appropriate (e.g. change in gear type, reduction of intensity, seasonal restrictions, etc)

The table below documents the draft COs for ALL the features listed for protection within the site, as established by JNCC and NE through the Vulnerability Assessment (VA) process⁴ and then sense checked at the national level⁵. Where a RECOVER objective is noted, the associated activity causing the pressure is indicated. In some cases, where information and data warrant it, the RSG chose to adopt the changes to COs recommended by the public authorities: Inshore Fisheries and Conservation Authorities (IFCAs), Marine Management Organisation (MMO), Environment Agency (EA) or Natural England. Changes were only accepted when recommended by these authorities and have been clearly noted. Where the VA has not yet been undertaken, or there is considerable uncertainty surrounding the accuracy of the information being used to recommend a change to the conservation objective, it has been noted as 'TO BE ASSESSED'. Local and regional stakeholders were given the opportunity to comment on the COs and potential management measures and to provide additional information that might not have been taken into account in the VA work. For greater detail on discussions relating to the site and the network, please refer to both RSG and Local

Group stakeholder meeting reports at www.balancedseas.org.

The process of establishing conservation objectives is outlined in the [Conservation Objectives Guidance](#) (JJNCC /NE 2011)

VA results were standardised across all four regional projects but the fisheries activity data is still undergoing assessment.

Feature Draft CO Activity exerting pressure

IFCA/MMO/EA/NE Comments

Stakeholder comments on draft COs and potential management measures

A1.3 Low energy intertidal rock MAINTAIN

A3.3 Low energy infralittoral rock MAINTAIN

The vulnerability assessment and resulting draft CO were only completed for the final RSG meeting in August and they were therefore not discussed at the Local Group meeting in July 2011. At the RSG meeting in August 2011, the SNCBs noted uncertainty about the overlap of commercial anchorages with this feature and the need for further information later.

A5.2 Subtidal sand MAINTAIN

SNCBs had requested further information from the LG about navigational dredging spoil disposal that might have an effect on the CO:

Historical navigation in creeks, Ridham Terminal – navigational channels are not maintained

A5.3 Subtidal Mud MAINTAIN

Vulnerability assessment stated that monitoring of commercial anchoring may need to be part of management.

A5.4 Subtidal mixed sediments MAINTAIN

SNCBs stated that monitoring of features and activities would include recreational anchoring LG (July 2011) said that there are long established recreational anchorages in the Swale; monitoring of features and activities would however include recreational anchoring at the RSG, the Wildlife sector noted that BSHs are integral to the health of *Sabellaria* and blue mussel beds and are have concerned that the COs for BSHs in this site are all set to maintain. They suggest that wherever *Sabellaria* and blue mussel beds have a RECOVER CO then the corresponding habitat should also have a RECOVER CO; the project data for this site indicates that *Sabellaria* overlaps with subtidal mixed sediments.

Blue Mussel beds RECOVER Fishing - shellfish harvesting (towed dredging)

IFCA code of conduct

IFCA recommend protection of one blue mussel bed within the Swale. This population further up the estuary might be suitable for protection and is inaccessible to vessels.

NE advised that management could be variable across the site (consultation with private ground owners would be necessary)

Several LG members (July 2011) did not support this CO because:

1. The reasons for the poor status/decline of the mussel beds are still not understood.

Towed dredges are not thought to be the main impact.

2. Vulnerability Assessment was done on information that there are 8 towed dredgers working here, but there are 3 at most working the North Side of the estuary mouth (Shellness).

- Wildlife sector support CO of RECOVER

- All sectors agree further scientific study is needed to understand the decline of the mussel beds.

- Some of the mussel beds in the south are in an area managed by Kent Wildlife Trust; KWT says that some towed dredging occurs here but the fishing industry disagree

- Upstream intertidal mussel bed is subject to very little dredging activity and could be a seeding population for other areas

- Several LG members felt that they had worked hard over the years to understand the problem and recover the estuary and they believe that further protection is not worthwhile until the research has been done to understand the issues.

RSG comments same as for A5.4 above

Rossworm (*Sabellaria spinulosa*) reef RECOVER Fishing - benthic trawling (bottom gear)

IFCA code of conduct

NE feel the CO should stay as RECOVER; it was emphasised that no designation will go ahead until feature verification has been completed.

IFCA code of conduct

Many LG members (July 2011) did not support the CO of RECOVER because of lack of confidence in the data points; some LG members considered it does not currently occur at these locations; WT stated that it has been therein the recent past and the habitat is appropriate and thus suitable for protection for recovery

- 2010 DONG side scan survey found no evidence of Rossworm in the area but this data has not been submitted this data to the project

- Whitstable Oyster Company does dredge this area (but not heavily – one vessel and one-person crew) and owns the ground.

- Local stakeholders are concerned that due to its transient nature, restrictions may be enforced in other areas of the site and not just where the data shows the habitat to be now.

- NE feel this should stay as RECOVER; it was emphasised that no designation will go ahead until feature verification has been completed.

RSG comments same as for A5.4 above

The RSG also noted that the distribution of *Sabellaria* occurs within private grounds in this site, which presents certain problems for management.

RECOVER Fishing - hydraulic

dredging (suction dredging)

RECOVER Fishing - shellfish harvesting (towed dredging)

RECOVER Tourism & recreation (anchoring from recreational vessels)

MMO code of conduct

NE feel the CO should stay as RECOVER; it was emphasised that no designation will go ahead until feature verification has been completed.

Peat and clay exposures

MAINTAIN Subtidal sands and gravels

MAINTAIN Sheltered muddy gravels

MAINTAIN SNCBs requested further information on bait digging. LG stated:

Not much sand in the area and therefore activity is not intense - 1-2 bait diggers

Native oyster MAINTAIN SNCBs requested further information on native oysters. LG stated:

- Private ground owners have tried to bolster the population over many years; native oysters only exist here because of the continued relaying of oysters and shell for spat fall settlement.

Population only enough to support one vessel

Most dense populations are on the Ham Ground owned by Seasalter Shellfisheries

European eel MAINTAIN EA regulations in place

16. Evolution of the site recommendations

This site was identified in the first RSG meeting as it contains several ENG features and is considered to be a highly biodiverse area for fish spawning and bird foraging. During RSG 6 (27.01.11), the seaward boundary was extended out to include The Street and the subtidal sediment habitats it comprises.

Various changes have been made to the features listed for protection throughout the process as it became clearer which features were already protected under existing designations (e.g. seagrass).

For greater detail on discussions relating to the site and the network, please refer to both RSG and Local

Group stakeholder meeting reports at www.balancedseas.org.

17. Implications for Stakeholders

The following activities are associated with this site:

Fuller discussion with the Medway and Swale Estuary Partnership (a multi-stakeholder coastal partnership) is necessary in relation to the management implications.

Many parts of the seabed are in private ownership by oyster companies or individuals; these stakeholders will need to be consulted on management implications and some have registered their concern regarding the implications of an MCZ. The Swale has private oyster fisheries that want to improve the environment for oyster cultivation but are concerned that an MCZ would ultimately result in restrictions that would hinder the fisheries.

The Crown Estate have noted that the site contains the London Array Wind Farm Cable, 3 active power cables and 1 active unknown cable, a proposed CCS pipeline and has licensing for wildfowling. These activities can be managed and the Crown Estate accepts the site recommendations.

This list represents only the major issues associated with the site. To see all stakeholder discussions, please refer to the Balanced Seas RSG and Local Group meeting reports at www.balancedseas.org.

The Swale extensions (Kent) Special Protection Area

The Swale extensions Special Protection Area is a wetland of international importance, comprising intertidal mudflats, shell beaches, saltmarshes and extensive grazing marshes. It provides habitats for important assemblages of wintering waterfowl, and also supports notable breeding bird populations.

The proposed extensions to the Swale SPA include areas of intertidal mudflats and grazing marshes adjacent to the existing site and within The Swale Site of Special Scientific Interest. These areas are integral components of the complex of estuarine habitats composing the Swale.

The Swale qualifies under Article 4.2 of the EC Birds Directive as a wetland of international importance by virtue of regularly supporting over 20,000 waterfowl, with an average peak count of 57,600 birds recorded in the five winter period 1986/87 to 1990/91. This total includes internationally or nationally important wintering populations of seventeen species of migratory waterfowl. Of these, two occur in significant numbers within the proposed extensions: dark-bellied brent geese *Branta bernicla bernicla* and dunlin *Calidris alpina*. In the five winter period 1986/87 to 1990/91, the average peak counts for the Swale as a whole were 2,850 dark-bellied brent geese (1.6% of the world population, 3.1% of the British wintering population) and 13,000 dunlin (3% of the British wintering population). The mudflats of the proposed extensions have, in recent years, supported over 400 dark-bellied brent geese and 900 dunlin.

The mudflats of the proposed extensions support smaller numbers of several other species of wintering migratory waterfowl, including oystercatcher *Haematopus ostralegus*, ringed plover *Charadrius hiaticula*, grey plover *Pluvialis squatarola*, curlew *Numenius arquata* and redshank *Tringa totanus*. These species are present in internationally or nationally important numbers within the Swale as a whole.

The Swale also qualifies under Article 4.2 by virtue of regularly supporting diverse assemblages of the wintering and breeding migratory waterfowl of lowland wet grassland and other estuarine habitats.

The grazing marshes of the proposed extensions support an assemblage of wintering species typical of the grazing marshes elsewhere within the Swale, including shelduck *Tadorna tadorna*, wigeon *Anas penelope*, teal *Anas crecca* and curlew *Numenius arquata*. These species are present in internationally or nationally important numbers within the Swale as a whole.

The grazing marshes also support a typical assemblage of breeding species, including shelduck *Tadorna tadorna*, mallard *Anas platyrhynchos*, moorhen *Gallinula chloropus*, coot *Fulica atra*, lapwing *Vanellus vanellus*, redshank *Tringa totanus*, reed warbler *Acrocephalus scirpaceus* and reed bunting *Emberiza schoeniclus*. Some of these species have restricted distributions in Britain because of habitat loss and degradation.

The grazing marshes of the proposed extensions also regularly support wintering, and occasionally breeding, short-eared owl *Asio flammeus* (a species listed under Annex 1 of the EC Birds Directive). During severe winter weather elsewhere, the Swale, including those areas within the proposed extensions, can assume even greater national and international importance as a cold weather refuge. Wildfowl and waders from many other areas arrive, attracted by the relatively mild climate, compared with continental European areas, and the abundant food resources available. The Swale SPA, including the proposed extensions, is part of the larger Thames estuary and contributes to its overall regional significance for birds in a European context.

SPA citation – LDS March 1993

Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitats: The Swale Ramsar site

The Swale Ramsar site is a wetland of international importance comprising intertidal mudflats, shellbeaches, saltmarshes and extensive grazing marshes. It provides breeding and winter habitats for important assemblages of wetland bird species, particularly wildfowl and waders. The proposed extensions to the Ramsar site include areas of intertidal mudflats and grazing marsh adjacent to the existing Swale Ramsar site and within The Swale Site of Special Scientific Interest. These areas are integral components of the complex of estuarine habitats composing the Swale.

The grazing marshes within the proposed extensions qualify under Criterion 2a of the Ramsar Convention by supporting a number of rare species of plants and animals. Nationally scarce plants include brackish water crowfoot *Ranunculus baudotii*, divided sedge *Carex divisa*, sea clover *Trifolium squamosum*, sea barley *Hordeum marinum* and soft hornwort *Ceratophyllum submersum*. Invertebrate records indicate that the grazing marshes support a rich wetland fauna, reflecting the complexity of habitats present. At least seven Red Data Book invertebrates have been recorded from Coldharbour, Iwade and Ridham Marshes, including an aquatic weevil *Bagous cylindrus*, a crane fly *Erioptera bivittata*, and a hoverfly *Lejops vittata*, listed as vulnerable; and a water bug *Micronecta minutissima*, a predatory rove beetle *Philonthus punctus*, a small dolichopodid fly *Campsicnemus magius* and a small chironomid fly *Elachiptera ruffrons*, listed as rare. Four of these species have not been recorded elsewhere in the Swale. A large number of notable and scarce wetland invertebrates also occur within the proposed extensions.

The Swale qualifies under Criterion 3a by virtue of regularly supporting over 20,000 waterfowl, with an average peak count of 57,600 birds for the five winter period 1986/87 to 1990/91. The proposed extensions contribute to this total.

The Swale qualifies under Criterion 3c by supporting, in winter, internationally important populations of four species of migratory waterfowl; and nationally important populations of a further thirteen species. These include internationally important numbers of dark-bellied brent geese *Branta bernicla bernicla*; and nationally important numbers of dunlin *Calidris alpina*. In the five winter period 1986/87 to 1990/91 the average peak counts for these species were 2,850 dark-bellied brent geese (1.6% of the world population, 3.1% of the British wintering population). The mudflats of the proposed extensions support significant numbers of these species, with over 400 dark-bellied brent geese and 900 dunlin being recorded in recent years.

The mudflats of the proposed extensions also support smaller numbers of several other species of wintering migratory waterfowl, including oystercatcher *Haematopus ostralegus*, ringed plover

Charadrius hiaticula, grey plover *Pluvialis squatarola*, curlew *Numenius arquata* and redshank *Tringa totanus*. These species occur in internationally or nationally important numbers within the Swale as a whole.

The grazing marshes of the proposed extensions support an assemblage of wintering species typical of the grazing marshes elsewhere within the Swale. These include shelduck *Tadorna tadorna*, wigeon *Anas penelope*, teal *Anas crecca* and curlew *Numenius arquata*, all of which present in internationally or nationally important numbers within the Swale as a whole.

During severe winter weather elsewhere, the Swale, including those areas within the proposed extensions, can assume even greater national and international importance as a cold weather refuge. Wildfowl and waders from many other areas arrive, attracted by the relatively mild climate, compared with continental European areas, and the abundant food resources available.

The Swale Ramsar site, including the proposed extensions, is part of the larger Thames estuary and contributes to its overall regional significance for birds in an international context.

Ramsar citation (Montreux 1990 Criteria)
LDS March 1993

Appendix F - Qualifying Features for Designation of UK Sites

The Swale SSSI

COUNTY: KENT **SITE NAME:** THE SWALE

DISTRICT: CANTERBURY/SWALE

Status: Site of. Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981 as amended. Part of the site has been designated a National Nature Reserve under Section 16 of the National Parks and Access to the Countryside Act 1949 and part is a Local Nature Reserve under Section 21 of the National Park and Access to the Countryside Act 1949.

Local Planning Authorities: Canterbury City Council, Swale Borough Council

National Grid Reference: TR 000670 **Area:** 6568.45 (ha.) 16,230.58 (ac.)

Ordnance Survey Sheet 1:50,000: 178, 179 **1:10,000:** TQ 96, TQ 97 SE & SW, TR 06, TR 07 SE, SW, TR 16 NW

Date Notified (Under 1949 Act): 1968 **Date of Last Revision:** 1981

Date Notified (Under 1981 Act): 1984 **Date of Last Revision:** 1990

Other Information:

Parts of the site are listed in 'A Nature Conservation Review' D A Ratcliffe (ed) CUP 1979. The Royal Society for the Protection of Birds manage part of the site as a nature reserve. The site has been extended to include Coldharbour and Ridham Marshes, and an additional part of the Oaze. Most of the site is also designated under the Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention) and as a Special Protection Area under European Community Directive 79/409 on the Conservation of Wild Birds.

Reasons for Notification:

The Swale includes the largest remaining areas of freshwater grazing marsh in Kent and is representative of the estuarine habitats found on the north Kent coast. The habitats comprise chiefly mudflats, saltmarsh, and freshwater grazing marsh, the latter being intersected by extensive dykes and fleets. The area is particularly notable for the internationally important numbers of wintering and passage wildfowl and waders, and there are also important breeding populations of a number of bird species. Associated with the various constituent habitats of the site are outstanding assemblages of plants and invertebrates.

The mudflats of the Swale are extremely rich in invertebrates, over 350 species having been recorded. Some of these, such as the polychaete worm *Clymenella torquata* are known from nowhere else in Britain, while other more widespread species are present at high densities and provide food for the huge numbers of birds, especially waders, which use the Swale.

The saltmarshes are among the richest for plant life in Britain with for example particularly good representation of the saltmarsh-grasses *Puccinellia* and the glassworts *Salicornia*. Other abundant species include sea aster *Aster tripolium*, sea lavender *Limonium vulgare*, sea purslane *Halimione portulacoides* and common cord-grass *Spartina anglica* while less common plants include small cord-grass *Spartina maritima** and golden samphire *Inula crithmoides**. As well as providing feeding and roosting places for many birds, the saltmarshes are of entomological interest; for example, this is the habitat of the scarce ground lackey moth *Malacostoma castrensis**.

Also on the seaward side of the sea walls are smaller areas of other habitats. The harder substrates of shingle below high water mark in places support large mussel beds, which in turn attract different birds from those of the mudflats, such as turnstone *Arenaria interpres*. There are several areas of shell, or shell sand beach, notably at Shellness on Sheppey and at Castle Coote west of Seasalter.

These have an interesting calcareous flora with plants characteristic of both sand and shingle beaches: sea kale *Crambe maritima**, yellow horned-poppy *Glaucium flavum*, marram grass *Ammophila arenaria* and sea rocket *Cakile maritima* occur for example. Where undisturbed these beaches attract breeding ringed plover *Charadrius hiaticula* and little tern *Sterna albifrons*. The grazing marsh complexes, including seawalls, counterwalls, fleets, dykes, temporary runnels, etc. provide suitable conditions for a wide range of plants and animals. The grassland habitats range from the damp muddy areas near the dykes, where characteristic plants include divided sedge *Carex divisa** and small goosefoot *Chenopodium botryodes** to the dry seawalls and counterwalls which support several less-common in addition to many widespread plants. These less-common plants include the specially-protected hogs fennel *Peucedanum officinale*** and least lettuce *Lactuca saligna***, slender hare's-ear *Bupleurum tenuissimum**, sea clover *Trifolium squamosum** and sea barley *Hordeum marinum**, all of which are more abundant in the Thames estuary than elsewhere in Britain.

The more level grassland is dominated by a variety of grasses including foxtails *Alopecurus*, bents *Agrostis*, rye-grass *Lolium* and fescues *Festuca* with various herbs such as clovers *Trifolium*, and buttercups *Ranunculus* also present.

The flora of the dykes and fleets varies according to the salinity. Those nearest the sea tend to be most brackish, and generally have sea club-rush *Scirpus maritimus*, common reed *Phragmites australis* and fennel pondweed *Potamogeton pectinatus* as the most abundant species. In the fresher water further inland there is a greater variety of species and plants such as branched bur-reed *Sparganium erectum* and reed-mace *Typha latifolia* may become dominant. Plants associated with the dykes include beaked tasselweed *Ruppia maritima* and soft hornwort *Ceratophyllum submersum**. There is also a good invertebrate community with beetles, dragon and damselflies, and flies especially well represented.

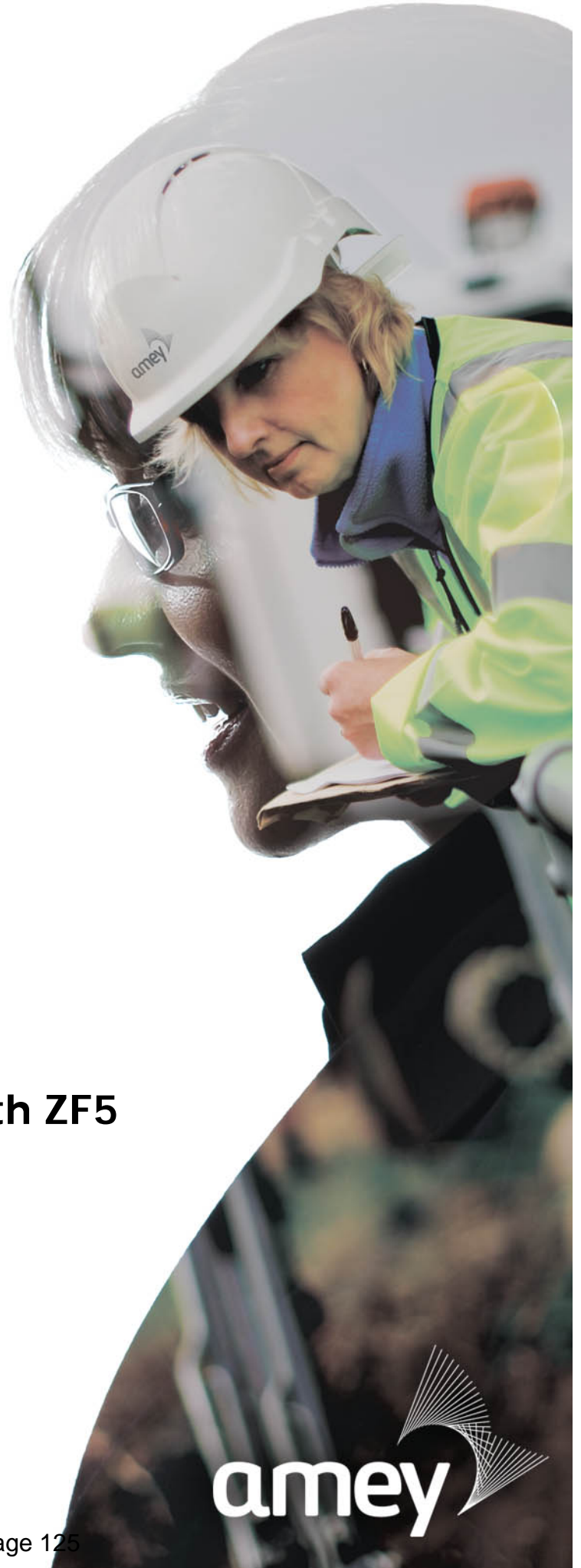
Other less extensive habitats in the Swale include water-filled disused clay-pits, and small patches of scrub and woodland. These provide additional variety and interest to the site, and in some cases also support uncommon plants or animals.

The bird interest of the Swale is centred on the large numbers of waders and wildfowl which use the area in winter, and on autumn and spring migrations. Several species: wigeon *Anas penelope*, teal *Anas crecca* and grey plover *Pluvialis squatarola* regularly overwinter in numbers of international importance+. Others, including shoveler *Anas clypeata*, knot *Caladris canutus*, dunlin *Caladris alpina* and spotted redshank *Tringa erythropus* are regularly present in winter in nationally significant numbers+. Many of the birds use more than one habitat, some for example feed on the mudflats at low tide and then move up to roost on the saltmarsh or on fields inland of the sea wall. The commoner breeding dry-land birds include skylark *Alauda arvensis*, meadow pipit *Anthus pratensis* and yellow wagtail *Motacilla flava*, and among the wetland birds mallard *Anas platyrhynchos*, shelduck *Tadorna tadorna*, coot *Fulica atra*, moorhen *Gallinula chloropus*, lapwing *Vanellus vanellus* and redshank *Tringa totanus*. Scarcer breeding birds include teal *Anas crecca*, gadwall *Anas strepera*, *Anas clypeata* and pochard *Aythya ferina*. Garganey *Anas querquedula*, pintail *Anas acuta*, ruff *Philomachus pugnax* and black-tailed godwit *Limosa limosa* have bred, or attempted to do so in recent years.

+ *Wildfowl and Wader Counts* 1987--88, D G Salmon et al, Wildfowl Trust 1988.

* Species regarded as 'scarce' in Britain (recorded from 16--100 of the 10 x 10km squares in Britain).

** Species recorded as 'rare' in Britain (recorded from 1--15 10 x 10km squares) and listed in *British Red Data Books: 1. vascular Plants*, 2nd Ed F H Perring & L Farrell, RSNL 1983.



Geotechnical report

Faversham Public Footpath ZF5

Ramp

CO04300288/001 Rev02

October 2015



Document Control Sheet

Project Name:	Faversham Public Footpath ZF5 Ramp
Project Number:	CO04300288
Report Title:	Geotechnical report
Report Number:	001

Issue Status/Amendment	Prepared	Reviewed	Approved
Rev01	Name: Sarah Mellers Signature:  Date: 21st September 2015	Name: Derek Barton Signature:  Date: 21 st September 2015	Name: Derek Barton Signature:  Date: 21st September 2015
Rev02 Minor amendments	Name: Sarah Mellers Signature:  Date: 26 th October 2015	Name: Derek Barton Signature:  Date: 26 th October 2015	Name: Derek Barton Signature:  Date: 26 th October 2015

Executive Summary

Amey has been commissioned by Kent County Council to undertake a geotechnical investigation for the completion of footpath ZF5 at Faversham Reach, Kent. The route of the footpath is currently obstructed by quayside developments. Two ramps will be required along the new route overcoming an existing height difference of 1-2m either end of the footpath.

The ground conditions comprise made ground overlying alluvium and head brickearth, which rest upon Thanet Sand (Thanet Formation). Groundwater level is influenced by the river and fluctuates with the tidal cycle. It can be assumed the full thickness of ground is saturated.

No illustrative design is available yet but the works are expected to include piles and a retaining wall. The findings of this report will be fed into the feasibility design.

The underlying geology will be capable of supporting new piled structures through end-bearing and shaft resistance, with piles terminating in the Thanet Sand (minimum depth of 7mbgl).

Preliminary contamination testing shows that any soil excavated may remain on site or be re-used within the scheme. Any surplus arisings will not need to be disposed of as hazardous waste, but additional testing is recommended should disposal be necessary.

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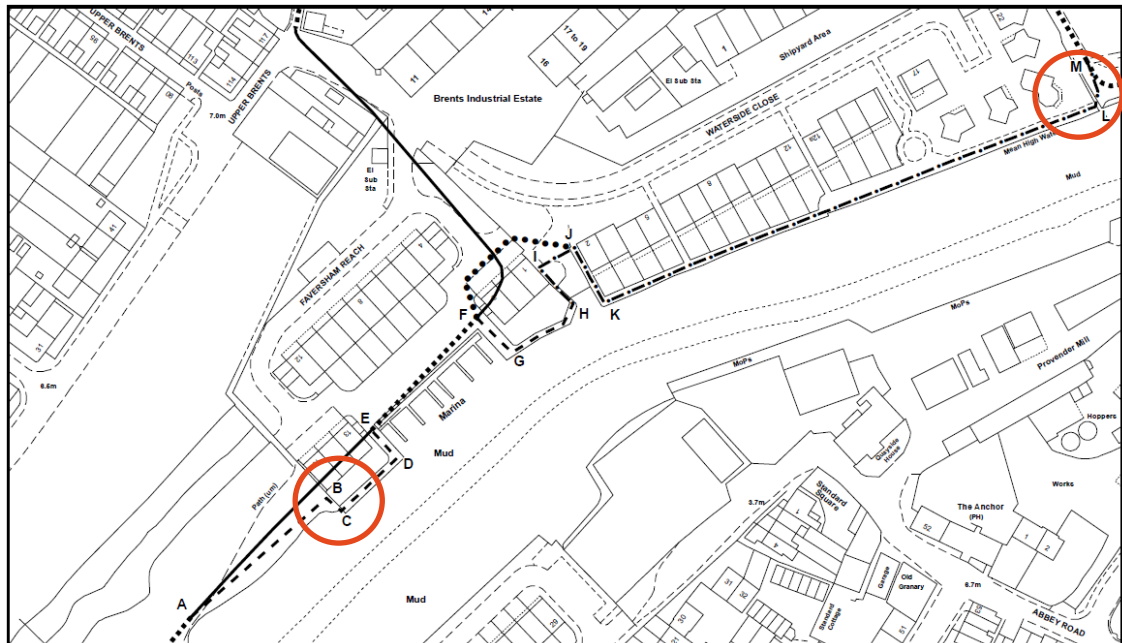
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The proposed works are part of a larger scheme to potentially divert the Faversham Creek footpath onto a new creek-side alignment connecting footpath ZF5 to footpath ZF32. The purpose is to create easier access along the creek-side without diverting around the recently developed housing (Waterside Close), and the Brents Industrial Estate, and to overcome the longstanding obstruction to Public Footpath ZF5 at Faversham Reach.

Ramps are proposed at point C and point L as shown on the map in Figure 1.2 (KCC, 2014). These will overcome an existing height difference of up to 2m, allowing the path to follow the existing creek retaining wall. Reference locations C and L will be used throughout this report.



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Figure 1.2: Plan showing footpath and investigation points C and L

The two locations C and L are shown in photographs 1.1 and 1.2



Photograph 1.1 – Location C, the ramp increases in height to match the existing wall



Photograph 1.2 – Location L, again the ramp rises to match the existing wall.

At present, there is no preferred option or illustrative structural design, and various materials and design options are being considered. It is expected that the materials used will be steel and concrete and/or plastic.

1.3 Geotechnical category

Based on the available information, site inspections and the findings of the ground investigation, the proposed scheme is considered to fall within geotechnical category 2 as defined in Eurocode 7 (BSI, 2009).

1.4 Other relevant information

A preliminary design for the footpath ZF5 was undertaken by East Kent Engineering Partnership in December 2014, commissioned by Swale Borough Council. This included a visual assessment of the existing footpath and piled quay.

2 Existing Information

The following section summarises the details of a brief geotechnical desk study undertaken prior to the intrusive ground investigation.

2.1 Topography and geomorphology

The areas of interest lie on the edge of Faversham Creek, approximately 1m above the bed of the creek. From the creek the land rises at a shallow angle before rising up a vertical bank at 0.5m high at location L and 0.75m at location C. Point C lies on a shallow slope increasing in height inland, where a small inlet of marshland is found. This becomes part of what is known as Faversham Village Green. Location point L lies on a flat area of agricultural land, before rising up a small flood bank onto the main area of grassed farmland owned by the Ham Estate. The area has an approximate elevation of 4mAOD.

2.2 Geological maps and memoirs

The geology at the site has been determined from the records of the British Geological Survey including the 1:50,000 Faversham sheet 273 and the associated BGS memoir *Geology of the country around Faversham*. An extract of the published geological map is shown in in Figure 2.2.

The anticipated superficial deposits and solid formations are summarised in Table 2.1.

Figure 2.1: Extract from the 1:50,000 geological map sheet 273



[C10/014-CSL] British Geological Survey © NERC. All rights reserved.

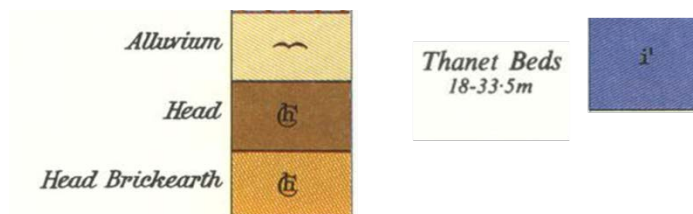


Table 2-1: Strata anticipated (Source: BGS Lexicon, 2015)

Superficial deposits	
Alluvium (Quaternary)	Soft to firm compressible silty clay, can contain layers of silt, sand, peat and gravel.
Head, brickearth (Quaternary)	Poorly-sorted and poorly-stratified deposits of slightly gravelly silts and clays.
Bedrock Formation	
Thanet Sand Formation (Paleogene)	Fine-grained sand that can be clayey and glauconitic, up to 30 thick.

The geological mapping does not indicate the presence of made ground on the site. However, a variable thickness of made ground can be expected everywhere due to previous cycles of development.

2.3 Hydrogeology

The Environment Agency define the underlying alluvium is classified as a secondary A aquifer (EA, 2015). The Thanet Sand Formation is designated as a secondary A bedrock aquifer. A secondary A aquifer indicates that the strata may be capable of supporting water supplies on a local level and may form an important source of base flow to rivers.

The site does not lie within a groundwater source protection zone (SPZ) and no wells used for public drinking supply are located near the site. The groundwater level is high and fluctuates constantly with the tides.

2.4 Hydrology

The closest water body to the site is the Faversham Creek, a tributary of The Swale separating the mainland from the Isle of Sheppey. At low tide, the water recedes about 10m from locations C and L. The groundwater table is expected to be coincident with the creek water level, so the unsaturated zone is very thin.

Within Faversham Creek, the tidal ranges are typically 2.5m to 5.5m during neap and spring tides respectively. Locations C and L are regularly inundated during higher tide cycles.

The area adjacent to and including both sites has a high risk of flooding and is located within a flood zone 3, indicating a 1% chance of flooding each year.

As indicated by the EA website (EA, 2015), the area directly to the southeast of point C has been granted indicative funding for a local flood protection capital scheme for 2015/2016.

2.5 Aerial photography

No aerial photographs have been obtained but fairly detailed images can be viewed on on-line map sites such as Google Maps and Bing Maps,

2.6 Records of mines and mineral deposits

The BGS Geoindex shows no history of mining or mineral deposits on or near the site.

2.7 Land use

The land at either end of the proposed footpath is currently undeveloped. At location C, the ground forms part of a Site of Nature Conservation Interest (SNCI), making up Faversham Village Green. There is an existing footway, and the ground is overgrown with vegetation.

The land surrounding location L is currently used as farmland for crops and grazing. Closest to the creek, where the ramp will be situated, the ground dips onto a small flooded area down a small flood embankment.

2.8 Archaeological and historical investigations

The Historic England website identified a series of Grade II listed buildings on the south eastern (opposite) side of the creek. Additionally Brents Tavern, located on the corner of Broomfield Road and Upper Brents is listed as Grade II. No additional assessment has been made in relation to the geotechnical investigation.

The history of the site was identified using historical maps provided by old-maps.co.uk (2015). At point C there was no development of the site until the late 1990s when the houses of Waterside Close and associated retaining structures were built adjacent to the proposed ramp.

Historically the ground at location L has been used for a warehouse and infrastructure associated with the shipbuilding history of Faversham. This appears to have been demolished prior to the 1980s. A railway siding or tramway connecting with the creek edge used to run near the site.

2.9 Existing ground investigations

No previous ground investigation has been undertaken for this scheme. However intrusive ground investigations were undertaken for the nearby Brent Swing Bridge, 200m to the south west, and these results have been consulted (Amey, 2014). The investigation comprised three cable percussion boreholes to a depth between 5.6m and 20.45m below ground level.

2.10 Consultation with statutory bodies

No consultations have been carried out in connection with this scheme.

2.11 Potentially contaminated land

The Environment Agency website (EA, 2015) indicates that there are a number of historic and authorised landfill sites nearby. Ham Farm, the estate where point L is located, is designated an authorised landfill, however this stops approximately 50m away from point L. The nearest historic landfill is located 500m to the northwest.

The industrial history of the Faversham Creek area, and the historic land-use associated with the creek suggests potential sources of contamination. Principally this is concerned with made ground from industrial usage and possible contaminants would be heavy metals, PAH and TPH. Due to the nature of the scheme, contamination is considered to be a low to medium risk. However, a full review of the contamination potential has not been included in this report. An initial appraisal of contaminants that might be found during construction is included in section 5.

3 Ground investigation

3.1 Exploratory holes

A ground investigation was undertaken by Amey on the 29th and 30th July 2015, using the services of Aylesford Drilling. The ground investigation comprised:

- two dynamic probes at each of locations C and L,
- two window samples at each of locations C and L.

The location of the fieldwork is shown on the appended exploratory hole location plan (Appendix A).

3.2 Laboratory investigations

The following laboratory tests were undertaken on samples retrieved during the investigation:

- seven natural moisture content tests
- two Atterberg limit tests (liquid and plastic limits)
- two BRE sulphate tests
- two general contamination suite tests.

4 Ground summary

There are four principal soil types identified by the investigation, which in order of increasing age are:

- Topsoil
- Made ground
- Alluvium
- Head brickearth / weathered Thanet Sand Formation (not differentiated)

Topsoil was encountered at point C only, whilst the surface at point L comprises alluvial clay reworked by the creek and farming activity.

Made ground was recorded to comprise predominantly very gravelly silty sandy clay for the top 0.8m at both C and L. The gravel consisted of flint and sandstone, and fragments of brick, glass and wood. At site L, there was an additional 1m of made ground comprising clayey sandy gravel, making a total of 1.8m of made ground. This was inter-layered with clay and also contained materials such as glass, brick and pottery.

Beneath the made ground, all the window samples encountered alluvium to at least 5m depth. This was described as very soft, grey to dark grey clay with rare plant matter. Towards the top, the clay was described as slightly silty. The base of the unit was not encountered in the window samples, but can be estimated from the dynamic probing results as lying at between 4.5m and 5.5m

The dynamic probes suggest that there is 1m to 2m of low strength material below the very soft alluvium between 5m and 7m depth. This might be the head brickearth or weathered Thanet Sand.

The dynamic probe results show a clear change in consistency at approximately 7m, at which depth we believe it is definitely Thanet Sand.

5 Ground conditions and material properties

5.1 General

The following section summarises the ground conditions and material properties based on all relevant investigations undertaken.

Geological logs of each exploratory hole can be found in Appendix B, and results of laboratory testing in Appendix C.

5.2 Topsoil

The ground surface at site C comprises vegetated topsoil to a maximum depth of 0.1m. Topsoil was brown clayey silt with occasional roots. At point L no topsoil is present and the surface is a disturbed soft clay which is left exposed by the receding tide and becomes desiccated. The constant wetting results in the clay being very soft to soft.

5.3 Made ground

Beneath the ground surface, made ground was encountered in each of the exploratory holes. This was typically saturated dark grey gravelly sandy clay. The gravel consisted of sandstone, brick, glass and wood. At location C, this was encountered to a depth of up to 0.8m. At location L, the made ground was typically described as clayey sandy gravel. This was encountered up to 1.8m depth.

Dynamic probe results do not generally record the strength profile of the top 1.2m due to the required hand-dug service pits. However results at location L suggest an equivalent SPT N value of 4 (correlation based on Cearns et al, 1988), and a relative density of very loose to loose.

Using the relationship between SPT N and angle of shearing resistance (after Peck et al, 1974), a ϕ' of 28° may be assumed for the made ground.

5.4 Alluvium

Alluvium was encountered below the made ground in all the exploratory holes to a depth of between 5.5m and 7m. This is very soft to soft, high plasticity grey to dark grey clay, within which the dynamic probe equipment sank under its own weight. Atterberg tests (liquid and plastic limit) classified the clay as being of high plasticity with PI values of 52% and 55% also indicating the is highly compressible. Results have been plotted on a Casagrande A-line graph in Figure 5.1 with both results falling within the CV category indicating a very high plasticity clay. Full laboratory results can be found in Appendix C.

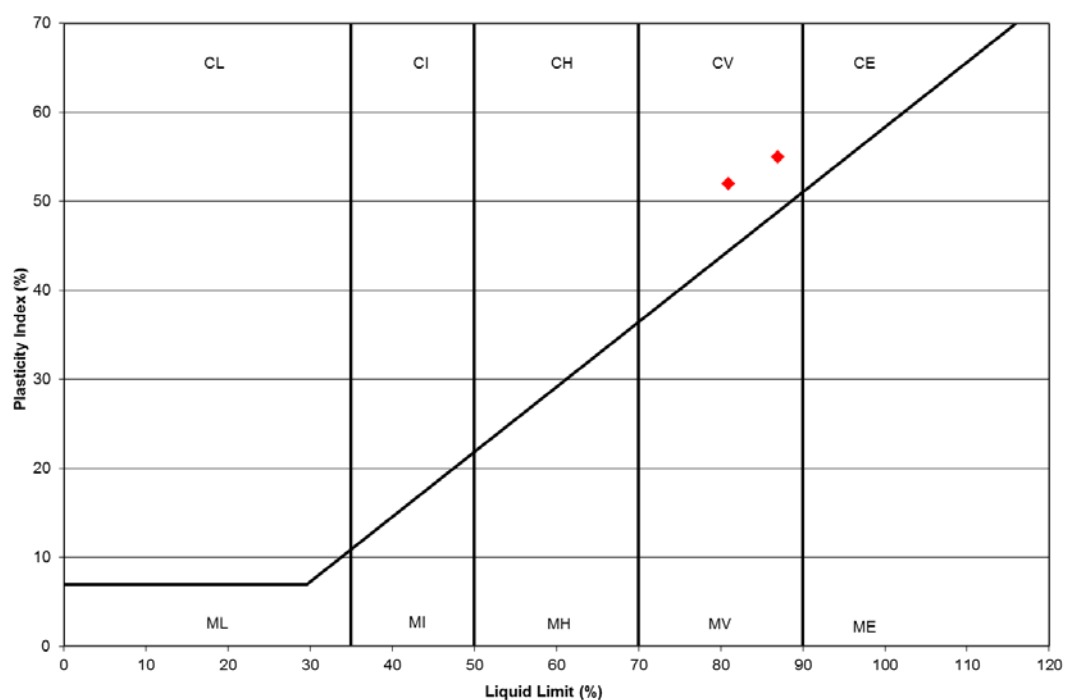


Figure 5.1: Casagrande A-Line graph of Alluvium

Using usual correlations (e.g. Stroud, 1975), the dynamic probe test results show the undrained shear strength may be as low as 5kPa (extremely low strength).

No tests were undertaken to determine effective stress parameters, but based on the plasticity index, an effective angle of shearing resistance ϕ' of 24° is appropriate (Clayton and Milititsky, 1986). For design purposes an effective cohesion of zero should be used.

For the purpose of concrete protection, the guidance given in BRE Special Digest 1 (BRE, 2005) has been followed. The superficial deposits are deemed to be *natural ground locations except those containing pyrite*. The maximum water soluble sulphate content was 1.4g/l and the pH was 8.0 (point C) and 8.6 (point L). Therefore if concrete is to be used, it should be designed as sulphate class DS2 and for AC2 exposure conditions.

5.5 Underlying strata

A deposit of contrasting strength was encountered in dynamic probing beneath the alluvium. This is likely to be either a head brickearth deposit or the weathered Thanet Sand or possibly a combination of both. The top of this deposit lies at approximately 7mbgl, and the strength differs at locations C and L.

At location C, dynamic probes between 6m and 8m depth give blow counts between 7 and 23 blows per 100mm. Usual correlations give an equivalent SPT N of 36, and an angle of shearing resistance, ϕ' of 37°.

At location L, dynamic probe results between 7 and 8m depth give an equivalent SPT N of 16 and a ϕ' of 32°. The lower value of 32° should be applied at both locations.

Using usual correlations (e.g. Stroud, 1975) the dynamic probe test results show that a conservative equivalent undrained shear strength of 80kPa can be used for preliminary design (assuming head brickearth and Thanet Sand are quite clayey).

5.6 Groundwater

Groundwater was found to be influenced by the tide but will always be higher than the river level. If groundwater levels are critical in design then consideration could be given to further monitoring during a tidal cycle.

5.7 Waste classification and materials re-use

Due to the nature of the project, there is potential for some excavation and disposal of the underlying material. Tests were carried out on two samples for a general suite of contaminants, and the results can be found in Appendix D.

To determine the potential waste class of excavated materials, a preliminary waste classification exercise was undertaken. This is a two stage process, with the first step comprising a hazard assessment of the soil quality data in line with the guidance set out in the Environment Agency WM2 document (EA, 2013). Once the hazardous nature of the materials is known, the second step is to assess the potential performance of the materials in a landfill. This is undertaken by looking at results of waste acceptance criteria (WAC) testing.

Generally wastes that are classified as hazardous will need to be deposited in a hazardous waste landfill or within a stable non-reactive hazardous waste cell in a non-hazardous waste landfill (depending on the WAC test results). Wastes that are shown not to be hazardous may either be deposited in a non-hazardous waste landfill (for which no WAC tests are required) or as inert waste (which would require confirmation of suitability for this particular waste stream via WAC testing).

In this report, only stage one, a hazard assessment, has been undertaken.

Soil quality data from the investigation was entered into a hazard assessment tool - *Hazwaste on-line*. The tool uses the current EA WM2 (v3) guidance to determine whether the substances contained within the soils tested exceed the threshold for any risk phrases that would render the materials as hazardous waste.

The preliminary analyses suggest that the near surface material can be disposed of as a not hazardous waste, however additional testing should be considered.

Table 5-1: Characteristic material properties for the strata encountered

Stratum	Depth range	Undrained shear strength, c_u	Effective angle of shearing resistance, ϕ'	Effective cohesion, c'	Coefficient of active earth pressure (k_a)*	Coefficient of passive earth pressure (k_p)*	Weight density
Made ground	0-1.5m	20kPa	28°	0kPa	0.361	2.770	19kN/m ³
Alluvium (clay)	1.5-7m	5kPa	24°	0kPa	0.422	2.371	15kN/m ³
Head brickearth and Thanet Sand	>7m	80kPa	32°	0kPa	0.249	4.028	19kN/m ³

* K_a and K_p are Rankine earth pressures; i.e. no allowance has been made for sloping backfill

6 Engineering assessment

As described previously, there is no illustrative design at present.

The underlying geology will be capable of supporting new piled structures through end-bearing and shaft resistance. Depending on the diameter and required loading, piles will embed in the Thanet Sand at least 7mbgl.

The bearing capacity of the piles can be determined using the characteristic soil properties in Table 5.1. If additional load is applied to the made ground and alluvium, i.e. more fill, then negative shaft friction should be applied due to the compressibility of the superficial deposits.

If the ramps are formed partly in engineered general fill, then an allowance should be made for ongoing settlement, say 15-20% of the fill height. Alternatively, earthwork ramps could be topped up at a later date. A geogrid or geotextile should be laid before placing any general fill. Imported granular fills would be preferred. Earthwork ramps are unlikely to suffer shear failure provided they are less than 1m high and have batter slopes slacker than 1v: 2h.

Concrete at the site may be designed for design sulphate class DS2 and AC2 exposure conditions.

Material for disposal is likely to be classed as inert waste. However, additional contamination testing and a waste acceptance criteria test (WAC) are recommended.

7 Geotechnical risk register

The following geotechnical risk register has been prepared for the scheme using the guidance given in the Highways England's standard HD22/08 *Managing Geotechnical Risk* (Highways Agency, 2008). This is a working document and is subject to revision as the design progresses.

Key:

Likelihood		Impact	Time impact
Very likely	5	Very high	5 >10 weeks on completion
Likely	4	High	4 >1 week to completion
Probable	3	Medium	3 >4 weeks: <1 week on completion
Unlikely	2	Low	2 1 to 4 weeks: None on completion
Negligible	1	Very low	1 <1 week to activity: None on completion

Risk $L * I = R$	Risk rating	Response
17 to 25	Intolerable	Unacceptable
13 to 16	Intolerable	Unacceptable
9 to 12	Substantial	Early attention
5 to 8	Tolerable	Regular attention
1 to 4	Trivial	Monitor

Table 7-1 Geotechnical risk assessment

Risk No	Hazard/Risk	Before control			Consequence	Control Measure	After Control			Comment
		Likelihood	Impact	Risk			Likelihood	Impact	Risk	
1	Ground conditions different from those anticipated from the results of the available GI	2	3	6	Delays whilst design amended. Cost of additional construction materials	Modify geotechnical parameters to allow for variations	2	3	6	
2	Excavation / piling difficulties due to presence of unexpected hard ground in areas of foundations.	3	3	9	Delays and additional costs to programme whilst appropriate plant is mobilised.	Sufficient investigation should be undertaken to determine presence of hard ground. Establish contingency plan for mobilising alternative plant.	2	3	6	
3	Materials at structure foundation formation level more compressible than anticipated	3	3	9	Excessive settlement of structure	Adequate GI carried out to establish ground conditions.	2	3	6	
4	Adverse weather conditions during construction.	3	2	6	Delay and additional costs. Imported materials become acceptable, damage to pavement formation.	Adopt good 'materials husbandry', control surface water during works.	2	2	4	
5	Design and / or alignment changes following completion of GI	2	3	6	Delay while further investigation undertaken.	Ensure GI caters for latest design and potential alternatives.	1	3	3	
6	Foundation works causing contamination of aquifer and adjacent river.	2	3	6	Cost and delays to project	Ensure results of GI and contamination testing are consulted when determining foundation design. Undertake risk assessment as appropriate.	1	3	3	
7	Chemical attack on buried structural elements due to soil borne contaminants.				Premature degradation and failure of buried elements.	Ensure adequate laboratory testing and appropriate design of concrete/steel, etc.	1	3	3	
8	Unexpected water ingress into foundation excavations from perched water tables / groundwater	3	2	6	Reduced bearing capacity. Delays to construction while water removed	Adequate GI and monitoring. Ensure appropriate plant is available.	2	2	4	
9	Encountering unexpected contamination "hotspots"	3	2	6	Delays whilst contamination is quantified and qualified and remedial action/remediation is designed and undertaken	Undertake contamination during the GI and subsequent risk assessment. Ensure contamination specialists are available	2	2	4	
10	Encountering unidentified services during construction	3	3	9	Site Safety implications. Delays whilst diversions agreed and carried out.	Undertake desk study. In particular liaise with UK Power Networks on the location of their numerous assets in this area. Accurately locate known services before works commences.	2	3	6	
11	Discovery of unexploded war- time ordnance	2	3	6	Site safety implications. Delays whilst ordnance is made safe/ removed	Consult specialist UXB contractors. Establish procedures to identify and make safe ordnance.	1	3	3	

		Before control					After Control			
Risk No	Hazard/Risk	Likelihood	Impact	Risk	Consequence	Control Measure	Likelihood	Impact	Risk	Comment
12	Geological hazards such as faults, fissures, cavities, etc	2	2	4	Delays to contract while design amendments undertaken.	During construction geotechnical engineer to inspect all foundations/earthworks to ensure ground conditions as expected or to advise on necessary design changes	1	2	2	
13	Restrictions due to unexpected archaeological features	2	2	4	Delays whilst approvals, rescue excavations or mitigation measures are undertaken	Adequate pre-construction surveys and liaison with Archaeologist prior to and during construction	1	2	2	

At this stage, the main geotechnical risks are perceived to be:

- Ground conditions differing from those encountered in the ground investigation
- Excavation/piling difficulties due to presence of unexpected ground in areas of foundations
- Encountering services

8 References

Amey (2014) Preliminary geotechnical report – Brent Swing Bridge replacement, Faversham, Report No: CO04300238/06 Rev 0.

Building Research Establishment Special Digest No 1 (2005) Concrete in aggressive ground.

British Geological Survey (1976) 1:50,000 (Solid and Drift) geological map, Faversham Sheet 273

British Geological Survey (2015) Geology of Britain Viewer [online]. Accessed 17th August 2015. Available from: <http://www.bgs.ac.uk/data/mapViewers/home.html>

British Geological Survey (2015) *Lexicon of Named Rock Units* [online]. Accessed 17th March 2015. Available from: <http://www.bgs.ac.uk/lexicon/lexicon.cfm?pub=LGS>

British Standards Institution (2013) BS EN 1997-1:2004 + A1:2013 incorporating corrigendum February 2009 Eurocode 7 – Geotechnical design – Part 1: General rules. BSI, Milton Keynes.

British Standards Institution (2007) BS EN 1997-2:2007 incorporating corrigendum June 2010 Eurocode 7 – Geotechnical design – Part 2: Ground investigation and testing. BSI, Milton Keynes.

Clayton CRI and Milititsky J. (1986). Earth Pressure and Earth Retaining Structures. Surrey University Press.

Environment Agency (2015) *What's in your Backyard?* [online]. Accessed 17th March 2015. Available from: <http://apps.environment-agency.gov.uk/wiyby/default.aspx>

Environment Agency Technical Guidance WM2, Hazardous waste - Interpretation of the definition and classification of hazardous waste (3rd Edition 2013).

Highways England standard HD29/08 Data for Pavement Assessment.

Historic England, (2015). Accessed 17th March 2015. Available from <http://www.historicengland.org.uk/>

Holmes, S.C.A. (1981), *Geology of the Country around Faversham*, Her Majesty's Stationery Office, London

Stroud, M A and Butler, F G (1975) The standard penetration test in insensitive clays and soft rocks, In: Proceedings of the European Symposium on penetration testing 367-375.

Appendix A Exploratory hole location plan



Key - Fieldwork

DP# & WS# Window Sample Borehole and Dynamic Probe

Rev	Revision details	Chkd	Appd	Date
Drawn: JT				Preliminary
Design: SM				For comment
Chkd: DIB				For tender
Appd: DIB				For construction
Date: 21.09.2015				As constructed
				Other



Client



Project Name
Public Footpath ZF5
Faversham

Drawing Title
Geotechnical
Exploratory Hole
Location Plan

Original Drg Size : A3	Dimensions : -
Scale : 1:1250	Copyright © Amey

Drawing No CO04300288/001	Rev 0
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Appendix B Exploratory hole logs



Borehole Log

Borehole No.

WS1

Sheet 1 of 1

Project Name: Faversham public footpath ZF5 ramp

Project No.
CO04300288

Co-ords: -

Hole Type
WS

Location: Faversham Creek



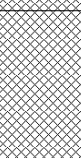
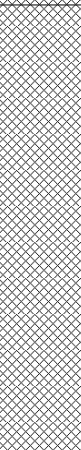

Level:

Scale
1:25

Client: Kent County Council

Dates: 29/07/2015 -

Logged By
SM

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20			Brown sandy SILT. (Topsoil)	
					0.50			Brown sandy silty gravelly CLAY. Gravel sub-angular to sub-rounded of flint, brick and sandstone. (Made ground)	
					1.00			Very soft grey slightly sandy silty CLAY with rare sub-rounded gravels of flint. (Made ground)	1
					2.50			Red brown very gravelly clayey silty SAND. Gravel sub-angular to sub-rounded of brick and sandstone. (Made ground)	2
					5.00			Very soft grey CLAY. (Alluvium)	3
								End of borehole at 5.00 m	4
									5

Remarks

Remained wet but stable throughout.





Probe Log

Borehole No.

DP1

Sheet 1 of 1

Project Name: Faversham public footpath ZF5 ramp

Project No.
CO04300288

Co-ords: -

Hole Type
DCP

Location: Faversham Creek

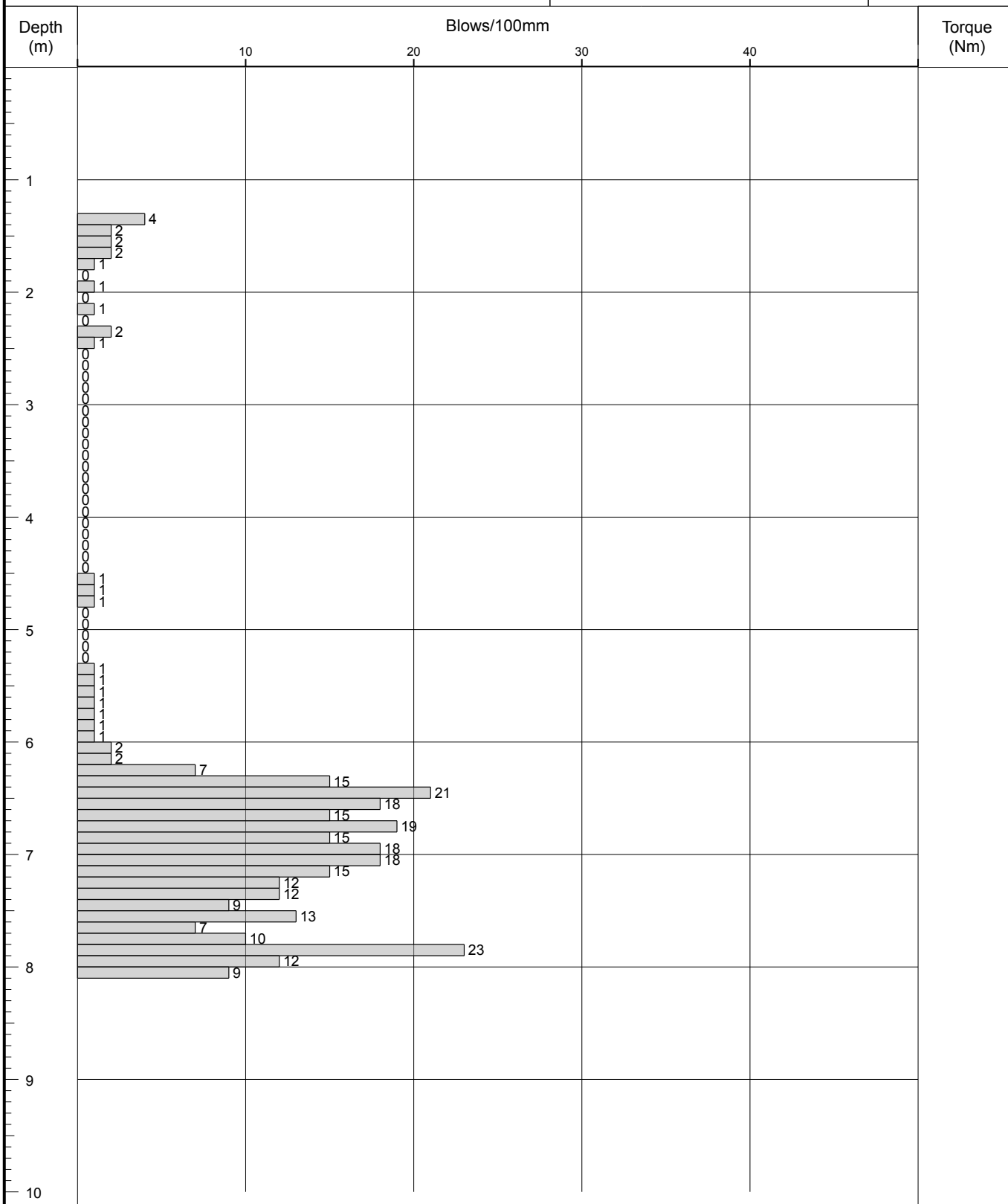
Level:

Scale
1:50

Client: Kent County Council

Dates: 29/07/2015 -

Logged By



Remarks

Fall Height

Cone Base Diameter

Hammer Wt

Final Depth 8.00

Probe Type DPH

Log Scale 1:50





Probe Log

Borehole No.

DP2

Sheet 1 of 1

Project Name: Faversham public footpath ZF5 ramp

Project No.
CO04300288

Co-ords: -

Hole Type
DCP

Location: Faversham Creek

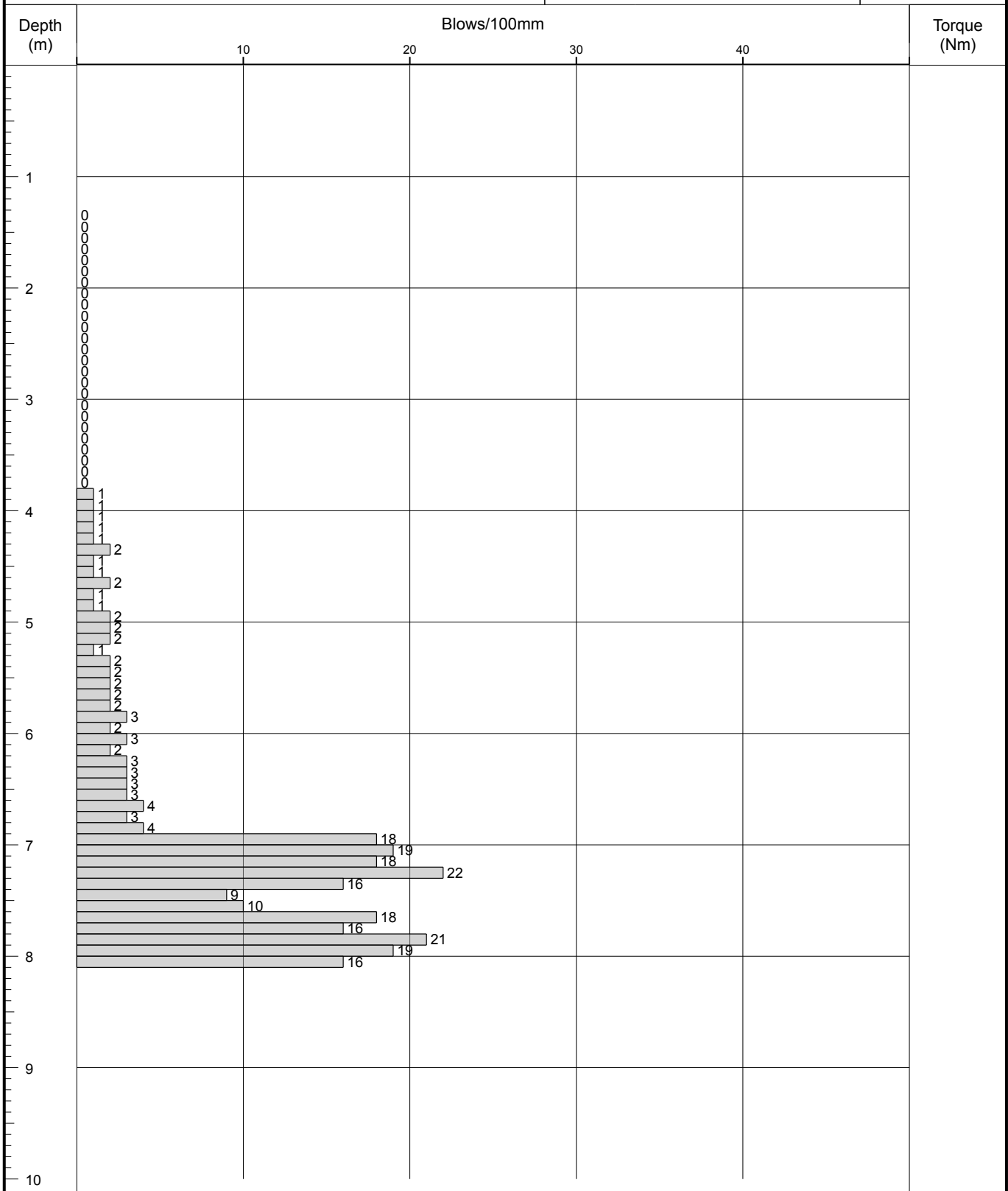
Level:

Scale
1:50

Client: Kent County Council

Dates: 29/07/2015 -

Logged By



Remarks

Fall Height

Cone Base Diameter

Hammer Wt

Final Depth 8.00

Probe Type DPH

Log Scale 1:50





Borehole Log

Borehole No.

WS3

Sheet 1 of 1

Project Name: Faversham public footpath ZF5 ramp

Project No.
CO04300288

Co-ords: -

Hole Type
WS

Location: Faversham Creek

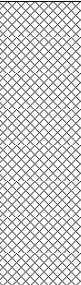
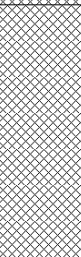


Level:

Scale
1:25

Client: Kent County Council

Dates: 30/07/2015 -

Logged By
SM

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.95			Dark grey very sandy gravelly CLAY. Gravel is sub-angular to sub-rounded of brick and sandstone. (Made ground)	
					1.80			Red brown sandy clayey GRAVEL. Gravel is fine to coarse angular to sub-rounded brick, chalk, sandstone, wood and pottery. (Made ground)	1
					2.00			Very soft grey very sandy silty CLAY. (Alluvium)	
					2.50			Very soft grey CLAY. (Alluvium)	2
								End of borehole at 2.50 m	3
									4
									5

Remarks

Wet throughout, beginning to collapse between 2m and 2.5m.





Borehole Log

Borehole No.

WS4

Sheet 1 of 1

Project Name: Faversham public footpath ZF5 ramp

Project No.
CO04300288

Co-ords: -

Hole Type
WS

Location: Faversham Creek

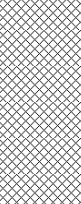
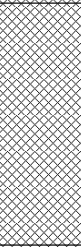
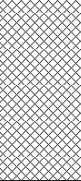


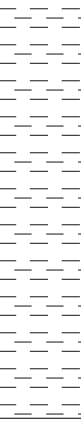
Level:

Scale
1:25

Client: Kent County Council

Dates: 29/07/2015 -

Logged By
SM

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.70			Brown gravelly sandy silty CLAY. Gravel sub-angular of brick, sandstone and glass. (Made ground)	
					1.50			Dark brown very clayey GRAVEL. Gravel is sub-angular to sub-rounded brick, sandstone, concrete and glass. (Made ground)	1
					2.10			Brown very gravelly, sandy CLAY. Gravel of brick and sandstone. (Made ground)	2
					2.40			Very soft dark grey slightly silty CLAY. (Alluvium)	
					2.60			Black clayey fibrous PEAT. (Peat)	
					4.00			Very soft grey CLAY. (Alluvium)	3
								End of borehole at 5.00 m	4
									5

Remarks

Remained wet but stable throughout.





Probe Log

Borehole No.

DP4

Sheet 1 of 1

Project Name: Faversham public footpath ZF5 ramp

Project No.
CO04300288

Co-ords: -

Hole Type
DCP

Location: Faversham Creek

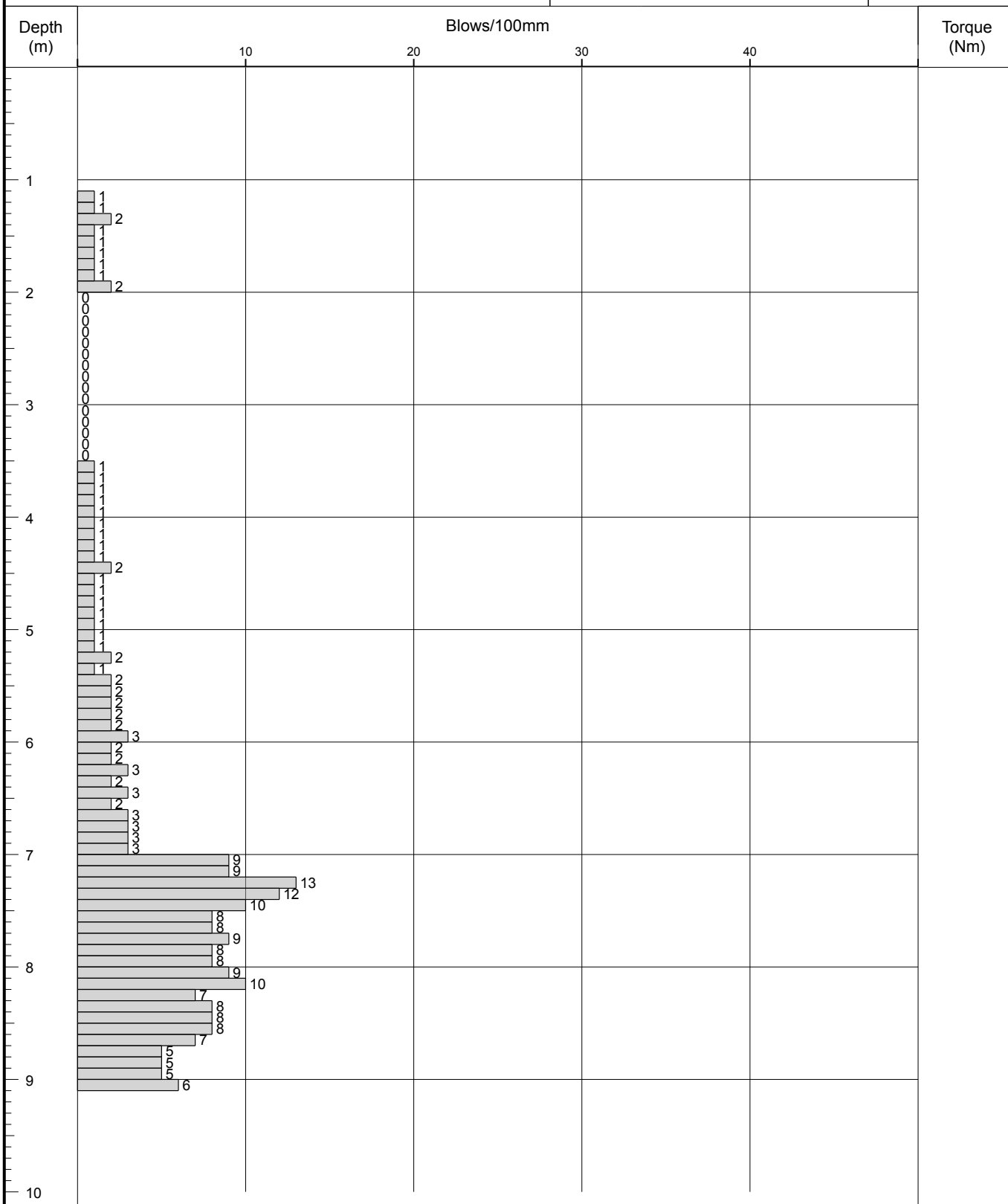
Level:

Scale
1:50

Client: Kent County Council

Dates: 30/07/2015 -

Logged By



Remarks

Fall Height

Cone Base Diameter

Hammer Wt

Final Depth 9.00

Probe Type DPH

Log Scale 1:50



Appendix C Laboratory testing

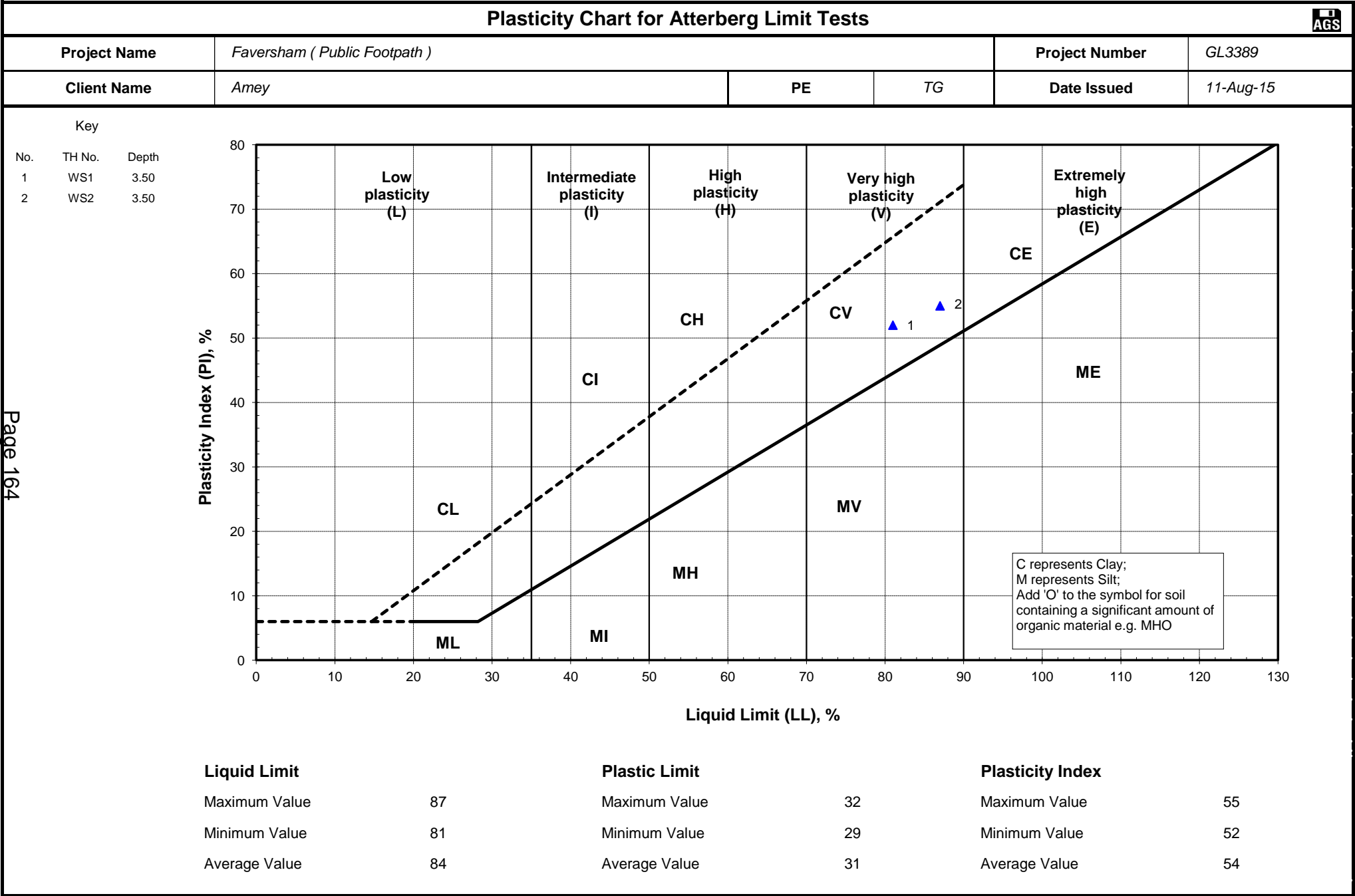
Atterberg and Moisture Content Summary

To BS1377-2:1990(2003) cl.3.2, 3.3, 4.2, 4.3

Project Name		Faversham (Public Footpath)					Project Number		GL3389	
Client		Amev				PE	TG	Date Issued		11-Aug-15
Location	Depth m	Sample Type	Visual Description	Comments	Natural MC %	Liquid Limit %	Plastic Limit %	Plasticity Index	Classi- fication	Passing 425 micron %
WS1	3.50	D	Very soft extremely low strength black organic CLAY with occasional gravel.		74	81	29	52	CVO	99
WS1	4.50	D			69					
WS2	2.50	D			72					
WS2	3.50	D	Very soft very low strength dark grey organic CLAY.		78	87	32	55	CVO	100
WS3	0.30	D			26					
WS4	0.50	D			27					
WS4	2.60	D			62					
WS4	4.50	D			74					

Southern Testing Laboratories Limited, East Grinstead is registered under BS EN ISO 9001:2008 BSI ref: FS29280

Jun 13



Scientific Analysis Laboratories Ltd

Certificate of Analysis

3 Crittall Drive
Springwood Industrial
Estate
Braintree
Essex
CM7 2RT
Tel : 01376 560120
Fax : 01376 552923

Scientific Analysis Laboratories is a
limited company registered in England and
Wales (No 2514788) whose address is at
Hadfield House, Hadfield Street, Manchester M16 9FE

Report Number: 499856-1

Date of Report: 19-Aug-2015

Customer: Southern Testing Laboratories
Keeble House
Stuart Way
East Grinstead
West Sussex
RH19 4QA

Customer Contact: Mr Timon Greenwood

Customer Job Reference: GL3389

Customer Purchase Order: GL3389_1 Timon

Customer Site Reference: Faversham (Public Footpath)

Date Job Received at SAL: 07-Aug-2015

Date Analysis Started: 11-Aug-2015

Date Analysis Completed: 19-Aug-2015

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

This report should not be reproduced except in full without the written approval of the laboratory

Tests covered by this certificate were conducted in accordance with SAL SOPs

All results have been reviewed in accordance with Section 25 of the SAL Quality Manual



Report checked
and authorised by :
Miss Claire Brown
Customer Service Manager

Issued by :
Miss Claire Brown
Customer Service Manager



SAL Reference: 499856						
Project Site: Faversham (Public Footpath)						
Customer Reference: GL3389						
Soil	Analysed as Soil					
BRE SD1 (SE)						
SAL Reference					499856 001	499856 002
Customer Sample Reference					WS2 @ 3.50m	WS4 @ 4.50m
Date Sampled					29-JUL-2015	30-JUL-2015
Type					Clay	Clay
Determinand	Method	Test Sample	LOD	Units		
(Water soluble) Ammonia expressed as NH4	T710	A R	0.01	g/l	<0.01	<0.01
(Water soluble) Cl-	T710	A40	0.01	g/l	1.6	0.87
Magnesium	T112	A40	1	mg/l	140	22
(Water soluble) NO3	T710	A40	0.01	g/l	<0.01	<0.01
pH	T7	A40			8.0	8.6
(Water Soluble) SO4 expressed as SO4	T242	A40	0.01	g/l	1.4	0.22
SO4(Total)	T102	A40	0.02	%	0.24	0.27
Sulphur (total)	T6	A40	0.01	%	0.42	0.82
Moisture @ 105 C	T162	A R	0.1	%	40	42
Retained on 2mm	T2	A40	0.1	%	<0.1	<0.1

Index to symbols used in 499856-1

Value	Description
AR	As Received
A40	Assisted dried < 40C
M	Analysis is MCERTS accredited
N	Analysis is not UKAS accredited

Notes

Retained on 2mm is removed before analysis

Method Index

Value	Description
T6	ICP/OES
T710	2:1 Extraction / Discrete Analyser
T2	Grav
T242	2:1 Extraction/ICP/OES (TRL 447 T1)
T7	Probe
T112	ICP/OES (SIM)(Water Extract)
T102	ICP/OES (HCl extract)
T162	Grav (1 Dec) (105 C)

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
(Water soluble) Ammonia expressed as NH4	T710	AR	0.01	g/l	N	001-002
(Water soluble) Cl-	T710	A40	0.01	g/l	N	001-002
Magnesium	T112	A40	1	mg/l	N	001-002
(Water soluble) NO3	T710	A40	0.01	g/l	N	001-002
pH	T7	A40			M	001-002
(Water Soluble) SO4 expressed as SO4	T242	A40	0.01	g/l	M	001-002
SO4(Total)	T102	A40	0.02	%	M	001-002
Sulphur (total)	T6	A40	0.01	%	M	001-002
Moisture @ 105 C	T162	AR	0.1	%	N	001-002
Retained on 2mm	T2	A40	0.1	%	N	001-002



Unit A2
Windmill Road
Ponswood Industrial Estate
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East Sussex
TN38 9BY
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info@elab-uk.co.uk

THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 15-03226

Issue: 1

Date of Issue: 13/08/2015

Contact: Sarah Mellers

Customer Details: AMEY plc
Explora II
Fleming Way
Crawley
West Sussex
RH10 9GT

Quotation No: Q15-00313


Order No: Not Supplied

Customer Reference: Not Supplied

Date Received: 05/08/2015

Date Approved: 13/08/2015

Details: Faversham Public Footpath ZF5

Approved by: 

Steve Knight, Business Development Manager

Any comments, opinions or interpretations expressed herein are outside the scope of UKAS accreditation (Accreditation Number 2683)



Sample Summary

Report No.: 15-03226

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
35905	WS1 1.50	29/07/2015	05/08/2015	Sandy loam	
35906	WS2 0.10	29/07/2015	05/08/2015		
35907	WS3 0.30	30/07/2015	05/08/2015	Sandy clayey loam	
35908	WS4 1.00	30/07/2015	05/08/2015	Sandy silty loam	

Results Summary

Report No.: 15-03226

ELAB Reference	35905	35907	35908
Customer Reference			
Sample ID			
Sample Type	SOIL	SOIL	SOIL
Sample Location	WS1	WS3	WS4
Sample Depth (m)	1.50	0.30	1.00
Sampling Date	29/07/2015	30/07/2015	30/07/2015

Determinand	Codes	Units	LOD			
Metals						
Arsenic	M	mg/kg	1	47.2	15.0	14.5
Cadmium	M	mg/kg	0.5	1.1	< 0.5	0.6
Chromium	M	mg/kg	5	33.3	30.5	26.3
Copper	M	mg/kg	5	242	57.8	63.4
Lead	M	mg/kg	5	1320	205	190
Mercury	M	mg/kg	0.5	0.7	< 0.5	< 0.5
Nickel	M	mg/kg	5	32.5	23.4	20.5
Selenium	M	mg/kg	1	1.5	< 1.0	1.0
Zinc	M	mg/kg	45	282	144	85.5
Anions						
Water Soluble Sulphate	M	mg/l	20	191	578	279
Inorganics						
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8
Total Cyanide	M	mg/kg	1	< 1.0	< 1.0	< 1.0
Water Soluble Boron	N	mg/kg	0.5	2.6	4.4	1.6
Miscellaneous						
pH	M	units	0.1	8.2	8.2	8.5
Soil Organic Matter	U	%	0.1	1.6	1.7	0.1
Phenols						
Total Monohydric Phenols	N	mg/kg	5	< 5	< 5	< 5
Polyaromatic hydrocarbons						
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	0.4	< 0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	0.9	0.3	0.2
Pyrene	M	mg/kg	0.1	0.6	0.2	0.1
Benzo (a) anthracene	M	mg/kg	0.1	0.3	0.1	< 0.1
Chrysene	M	mg/kg	0.1	0.4	0.2	< 0.1
Benzo (b) fluoranthene	M	mg/kg	0.1	0.6	< 0.1	0.4
Benzo (k) fluoranthene	M	mg/kg	0.1	0.3	< 0.1	< 0.1
Benzo (a) pyrene	M	mg/kg	0.1	0.4	0.2	< 0.1
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	0.3	0.2	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	M	mg/kg	0.1	0.2	0.2	< 0.1
Total PAH(16)	M	mg/kg	0.4	4.7	1.5	0.7
BTEX						
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0
MTBE	N	ug/kg	10	< 10.0	< 10.0	< 10.0
TPH CWG						
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	1.3
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0	1.3

Method Summary

Report No.: 15-03226

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Hexavalent chromium	N	As submitted sample	07/08/2015	110	Colorimetry
pH	M	Air dried sample	10/08/2015	113	Electromeric
Aqua regia extractable metals	M	Air dried sample	10/08/2015	118	ICPMS
Phenols in solids	M	As submitted sample	07/08/2015	121	HPLC
Polyaromatic hydrocarbons (GC-FID)	M	As submitted sample	07/08/2015	133	GC-FID
Water soluble anions	M	Air dried sample	07/08/2015	172	Ion Chromatography
BTEX in solids	M	As submitted sample	10/08/2015	181	GC-MS
Water soluble boron	N	Air dried sample	07/08/2015	202	Colorimetry
Total cyanide	M	As submitted sample	10/08/2015	204	Colorimetry
Aliphatic hydrocarbons in soil	N	As submitted sample	07/08/2015	214	GC-FID
Aliphatic/Aromatic hydrocarbons in soil	N	As submitted sample	11/08/2015	214	GC-FID
Aromatic hydrocarbons in soil	N	As submitted sample	07/08/2015	214	GC-FID
Low range Aliphatic hydrocarbons soil	N	As submitted sample	10/08/2015	214	GC-MS
Low range Aromatic hydrocarbons soil	N	As submitted sample	10/08/2015	214	GC-MS
Soil organic matter	U	Air dried sample	10/08/2015	BS1377:P3	Titrimetry

Tests marked N are not UKAS accredited

Report Information

Report No.: 15-03226

Key

U	hold UKAS accreditation
M	hold MCERTS and UKAS accreditation
N	do not currently hold UKAS accreditation
^	MCERTS accreditation not applicable for sample matrix
*	UKAS accreditation not applicable for sample matrix
S	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
I/S	Insufficient Sample
U/S	Unsuitable sample
n/t	Not tested
<	means "less than"
>	means "greater than"

Soil sample results are expressed on an air dried basis

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

PCB congener results may include any coeluting PCBs

Uncertainty of measurement for the determinands tested are available upon request

Deviation Codes

-
- | | |
|---|--|
| a | No date of sampling supplied |
| b | No time of sampling supplied (Waters Only) |
| c | Sample not received in appropriate containers |
| d | Sample not received in cooled condition |
| e | The container has been incorrectly filled |
| f | Sample age exceeds stability time (sampling to receipt) |
| g | Sample age exceeds stability time (sampling to analysis) |

Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

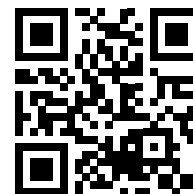
All soil samples will be retained for a period of one month

All water samples will be retained for 7 days following the date of the test report

Charges may apply to extended sample storage

Appendix D Waste classification

Waste Classification Report



GZJ5Y-RN9H9-LCUGN

Job name

Faversham Public Footpath ZF5

Waste Stream

Default Contaminated Land

Comments
Project
Site
Classified by

Name:

Giordanelli, Dino

Date:

17/09/2015 14:06 UTC

Telephone:

01293 657232

Company:

Amey plc
South East Hub, Explorer II
Fleming Way
Crawley
RH10 9GT
Report

Created by: Giordanelli, Dino

Created date: 17/09/2015 14:06 UTC

Job summary

#	Sample Name	Depth [m]	Classification Result	Hazardous properties	Page
1	WS1	1.5	Non Hazardous		2
2	WS3	0.3	Non Hazardous		4
3	WS4	1	Non Hazardous		6

Appendices	Page
Appendix A: Classifier defined and non CLP determinands	9
Appendix B: Notes	11
Appendix C: Version	11

Classification of sample: WS1



Non Hazardous Waste

Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:	LoW Code:
WS1	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
1.5 m	
Moisture content: 0% (no correction)	

Hazard properties

None identified

Determinands (Moisture content: 0%, no correction)

acenaphthene: (Whole conc. entered as: <0.1 mg/kg or <0.00001%) **IGNORED Because: "<LOD"**
 acenaphthylene: (Whole conc. entered as: <0.1 mg/kg or <0.00001%) **IGNORED Because: "<LOD"**
 anthracene: (Whole conc. entered as: <0.1 mg/kg or <0.00001%) **IGNORED Because: "<LOD"**
 arsenic trioxide: (Cation conc. entered: 47.2 mg/kg, converted to compound conc.:62.319 mg/kg or 0.00623%)
 benzene: (Whole conc. entered as: <10 mg/kg or <0.001%) **IGNORED Because: "<LOD"**
 benzo[a]anthracene: (Whole conc. entered as: 0.3 mg/kg or 0.00003%)
 benzo[a]pyrene; benzo[def]chrysene: (Whole conc. entered as: 0.4 mg/kg or 0.00004%)
 benzo[b]fluoranthene: (Whole conc. entered as: 0.6 mg/kg or 0.00006%)
 benzo[ghi]perylene: (Whole conc. entered as: 0.2 mg/kg or 0.00002%)
 benzo[k]fluoranthene: (Whole conc. entered as: 0.3 mg/kg or 0.00003%)
 boron tribromide/trichloride/trifluoride (combined): (Cation conc. entered: 2.6 mg/kg, converted to compound conc.:34.918 mg/kg or 0.00349%)
 cadmium sulfide: (Cation conc. entered: 1.1 mg/kg, converted to compound conc.:1.414 mg/kg or 0.000141%, Note 1 conc.: 0.00011%)
 chromium(III) oxide: (Cation conc. entered: 33.3 mg/kg, converted to compound conc.:48.67 mg/kg or 0.00487%)
 chromium(VI) oxide: (Cation conc. entered: <0.8 mg/kg, converted to compound conc.:<1.538 mg/kg or <0.000154%)
IGNORED Because: "<LOD"
 chrysene: (Whole conc. entered as: 0.4 mg/kg or 0.00004%)
 copper (I) oxide: (Cation conc. entered: 242 mg/kg, converted to compound conc.:272.465 mg/kg or 0.0272%)
 cyanides (with the exception of complex cyanides): (Whole conc. entered as: <1 mg/kg or <0.0001%) **IGNORED Because: "<LOD"**
 dibenz[a,h]anthracene: (Whole conc. entered as: <0.1 mg/kg or <0.00001%) **IGNORED Because: "<LOD"**
 ethylbenzene: (Whole conc. entered as: <10 mg/kg or <0.001%) **IGNORED Because: "<LOD"**
 fluoranthene: (Whole conc. entered as: 0.9 mg/kg or 0.00009%)
 fluorene: (Whole conc. entered as: <0.1 mg/kg or <0.00001%) **IGNORED Because: "<LOD"**
 indeno[123-cd]pyrene: (Whole conc. entered as: 0.3 mg/kg or 0.00003%)
 lead compounds (with the exception of those listed separately in this Annex): (Cation conc. entered: 1320 mg/kg, converted to compound conc.:1993.2 mg/kg or 0.199%, Note 1 conc.: 0.132%)
 mercury dichloride: (Cation conc. entered: 0.7 mg/kg, converted to compound conc.:0.947 mg/kg or 0.0000947%)
 naphthalene: (Whole conc. entered as: <0.1 mg/kg or <0.00001%) **IGNORED Because: "<LOD"**
 nickel dihydroxide: (Cation conc. entered: 32.5 mg/kg, converted to compound conc.:51.334 mg/kg or 0.00513%)
 pH: (Whole conc. entered as: 8.2 pH, converted to conc.:8.2 pH or 8.2 pH)
 phenanthrene: (Whole conc. entered as: 0.4 mg/kg or 0.00004%)
 phenol: (Whole conc. entered as: <5 mg/kg or <0.0005%) **IGNORED Because: "<LOD"**
 pyrene: (Whole conc. entered as: 0.6 mg/kg or 0.00006%)

selenium compounds (with the exception of cadmium sulfoselenide and sodium selenite): (Cation conc. entered: 1.5 mg/kg, converted to compound conc.: 2.25 mg/kg or 0.000225%)
toluene: (Whole conc. entered as: <10 mg/kg or <0.001%) **IGNORED Because: "<LOD"**
TPH (C6 to C40) petroleum group: (Whole conc. entered as: <1 mg/kg or <0.0001%) **IGNORED Because: "<LOD"**
xylene: (Whole conc. entered as: <10 mg/kg or <0.001%) **IGNORED Because: "<LOD"**
zinc chromate: (Cation conc. entered: 282 mg/kg, converted to compound conc.: 782.309 mg/kg or 0.0782%)

Notes utilised in assessment

C14: Step 5

"identify whether any individual ecotoxic substance is present at or above a cut-off value ..." , used on:

Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "cadmium sulfide"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "arsenic trioxide"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "benzo[a]anthracene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "benzo[a]pyrene; benzo[def]chrysene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "benzo[b]fluoranthene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "benzo[ghi]perylene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "benzo[k]fluoranthene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "chromium(III) oxide"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "chrysene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "copper (I) oxide"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "fluoranthene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "mercury dichloride"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "nickel dihydroxide"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "phenanthrene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "pyrene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "selenium compounds (with the exception of cadmium sulfoselenide and sodium selenite)"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "zinc chromate"

Note 1 , used on:

Test: "HP 5 on STOT SE 1; H370, STOT RE 1; H372" for determinand: "cadmium sulfide"
Test: "HP 5 on STOT SE 2; H371, STOT RE 2; H373" for determinand: "cadmium sulfide"
Test: "HP 6 on Acute Tox. 4; H302" for determinand: "cadmium sulfide"
Test: "HP 6 on Acute Tox. 4; H332" for determinand: "lead compounds (with the exception of those listed separately in this Annex)"
Test: "HP 7 on Carc. 1B; H350, Carc. 1A; H350, Carc. 1B; H350i, Carc. 1A; H350i" for determinand: "cadmium sulfide"
Test: "HP 7 on Carc. 2; H351" for determinand: "lead compounds (with the exception of those listed separately in this Annex)"
Test: "HP 10 on Repr. 1A; H360, Repr. 1B; H360, Repr. 1B; H360F, Repr. 1A; H360F, Repr. 1A; H360D, Repr. 1B; H360D, Repr. 1B; H360FD, Repr. 1A; H360FD, Repr. 1A; H360Fd, Repr. 1B; H360Fd, Repr. 1B; H360Df, Repr. 1A; H360Df" for determinand: "lead compounds (with the exception of those listed separately in this Annex)"
Test: "HP 10 on Repr. 2; H361, Repr. 2; H361f, Repr. 2; H361d, Repr. 2; H361fd" for determinand: "lead compounds (with the exception of those listed separately in this Annex)"
Test: "HP 11 on Muta. 2; H341" for determinand: "cadmium sulfide"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "cadmium sulfide"

Determinand notes

Note 1 , used on:

determinand: "cadmium sulfide"
determinand: "lead compounds (with the exception of those listed separately in this Annex)"

Note A , used on:

determinand: "lead compounds (with the exception of those listed separately in this Annex)"
determinand: "selenium compounds (with the exception of cadmium sulfoselenide and sodium selenite)"
determinand: "zinc chromate"

Classification of sample: WS3



Non Hazardous Waste

Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:	LoW Code:
WS3	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.3 m	
Moisture content: 0% (no correction)	

Hazard properties

None identified

Determinands (Moisture content: 0%, no correction)

acenaphthene: (Whole conc. entered as: <0.1 mg/kg or <0.00001%) **IGNORED Because: "<LOD"**
 acenaphthylene: (Whole conc. entered as: <0.1 mg/kg or <0.00001%) **IGNORED Because: "<LOD"**
 anthracene: (Whole conc. entered as: <0.1 mg/kg or <0.00001%) **IGNORED Because: "<LOD"**
 arsenic trioxide: (Cation conc. entered: 15 mg/kg, converted to compound conc.:19.805 mg/kg or 0.00198%)
 benzene: (Whole conc. entered as: <10 mg/kg or <0.001%) **IGNORED Because: "<LOD"**
 benzo[a]anthracene: (Whole conc. entered as: 0.1 mg/kg or 0.00001%)
 benzo[a]pyrene; benzo[def]chrysene: (Whole conc. entered as: 0.2 mg/kg or 0.00002%)
 benzo[b]fluoranthene: (Whole conc. entered as: <0.1 mg/kg or <0.00001%) **IGNORED Because: "<LOD"**
 benzo[ghi]perylene: (Whole conc. entered as: 0.2 mg/kg or 0.00002%)
 benzo[k]fluoranthene: (Whole conc. entered as: <0.1 mg/kg or <0.00001%) **IGNORED Because: "<LOD"**
 boron tribromide/trichloride/trifluoride (combined): (Cation conc. entered: 4.4 mg/kg, converted to compound conc.:59.092 mg/kg or 0.00591%)
 cadmium sulfide: (Cation conc. entered: <0.5 mg/kg, converted to compound conc.:<0.643 mg/kg or <0.0000643%, Note 1 conc.: <0.00005%) **IGNORED Because: "<LOD"**
 chromium(III) oxide: (Cation conc. entered: 30.5 mg/kg, converted to compound conc.:44.577 mg/kg or 0.00446%)
 chromium(VI) oxide: (Cation conc. entered: <0.8 mg/kg, converted to compound conc.:<1.538 mg/kg or <0.000154%)
IGNORED Because: "<LOD"
 chrysene: (Whole conc. entered as: 0.2 mg/kg or 0.00002%)
 copper (I) oxide: (Cation conc. entered: 57.8 mg/kg, converted to compound conc.:65.076 mg/kg or 0.00651%)
 cyanides (with the exception of complex cyanides): (Whole conc. entered as: <1 mg/kg or <0.0001%) **IGNORED Because: "<LOD"**
 dibenz[a,h]anthracene: (Whole conc. entered as: <0.1 mg/kg or <0.00001%) **IGNORED Because: "<LOD"**
 ethylbenzene: (Whole conc. entered as: <10 mg/kg or <0.001%) **IGNORED Because: "<LOD"**
 fluoranthene: (Whole conc. entered as: 0.3 mg/kg or 0.00003%)
 fluorene: (Whole conc. entered as: <0.1 mg/kg or <0.00001%) **IGNORED Because: "<LOD"**
 indeno[123-cd]pyrene: (Whole conc. entered as: 0.2 mg/kg or 0.00002%)
 lead compounds (with the exception of those listed separately in this Annex): (Cation conc. entered: 205 mg/kg, converted to compound conc.:309.55 mg/kg or 0.031%, Note 1 conc.: 0.0205%)
 mercury dichloride: (Cation conc. entered: <0.5 mg/kg, converted to compound conc.:<0.677 mg/kg or <0.0000677%)
IGNORED Because: "<LOD"
 naphthalene: (Whole conc. entered as: <0.1 mg/kg or <0.00001%) **IGNORED Because: "<LOD"**
 nickel dihydroxide: (Cation conc. entered: 23.4 mg/kg, converted to compound conc.:36.96 mg/kg or 0.0037%)
 pH: (Whole conc. entered as: 8.2 pH, converted to conc.:8.2 pH or 8.2 pH)
 phenanthrene: (Whole conc. entered as: <0.1 mg/kg or <0.00001%) **IGNORED Because: "<LOD"**
 phenol: (Whole conc. entered as: <5 mg/kg or <0.0005%) **IGNORED Because: "<LOD"**
 pyrene: (Whole conc. entered as: 0.2 mg/kg or 0.00002%)

selenium compounds (with the exception of cadmium sulfoselenide and sodium selenite): (Cation conc. entered: <1 mg/kg, converted to compound conc.: <1.5 mg/kg or <0.00015%) **IGNORED Because: "<LOD"**
toluene: (Whole conc. entered as: <10 mg/kg or <0.001%) **IGNORED Because: "<LOD"**
TPH (C6 to C40) petroleum group: (Whole conc. entered as: <1 mg/kg or <0.0001%) **IGNORED Because: "<LOD"**
xylene: (Whole conc. entered as: <10 mg/kg or <0.001%) **IGNORED Because: "<LOD"**
zinc chromate: (Cation conc. entered: 144 mg/kg, converted to compound conc.: 399.477 mg/kg or 0.0399%)

Notes utilised in assessment

C14: Step 5

"identify whether any individual ecotoxic substance is present at or above a cut-off value ..." , used on:

Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "arsenic trioxide"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "benzo[a]anthracene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "benzo[a]pyrene; benzo[def]chrysene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "benzo[ghi]perylene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "chromium(III) oxide"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "chrysene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "copper (I) oxide"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "fluoranthene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "lead compounds (with the exception of those listed separately in this Annex)"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "nickel dihydroxide"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "pyrene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "zinc chromate"

Determinand notes

Note 1 , used on:

determinand: "lead compounds (with the exception of those listed separately in this Annex)"

Note A , used on:

determinand: "lead compounds (with the exception of those listed separately in this Annex)"
determinand: "zinc chromate"

Classification of sample: WS4



Non Hazardous Waste

Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:	LoW Code:
WS4	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
1 m	
Moisture content: 0% (no correction)	

Hazard properties

None identified

Determinands (Moisture content: 0%, no correction)

acenaphthene: (Whole conc. entered as: <0.1 mg/kg or <0.00001%) **IGNORED Because: "<LOD"**
 acenaphthylene: (Whole conc. entered as: <0.1 mg/kg or <0.00001%) **IGNORED Because: "<LOD"**
 anthracene: (Whole conc. entered as: <0.1 mg/kg or <0.00001%) **IGNORED Because: "<LOD"**
 arsenic trioxide: (Cation conc. entered: 14.5 mg/kg, converted to compound conc.: 19.145 mg/kg or 0.00191%)
 benzene: (Whole conc. entered as: <10 mg/kg or <0.001%) **IGNORED Because: "<LOD"**
 benzo[a]anthracene: (Whole conc. entered as: <0.1 mg/kg or <0.00001%) **IGNORED Because: "<LOD"**
 benzo[a]pyrene; benzo[def]chrysene: (Whole conc. entered as: <0.1 mg/kg or <0.00001%) **IGNORED Because: "<LOD"**
 benzo[b]fluoranthene: (Whole conc. entered as: 0.4 mg/kg or 0.00004%)
 benzo[ghi]perylene: (Whole conc. entered as: <0.1 mg/kg or <0.00001%) **IGNORED Because: "<LOD"**
 benzo[k]fluoranthene: (Whole conc. entered as: <0.1 mg/kg or <0.00001%) **IGNORED Because: "<LOD"**
 boron tribromide/trichloride/trifluoride (combined): (Cation conc. entered: 1.6 mg/kg, converted to compound conc.: 21.488 mg/kg or 0.00215%)
 cadmium sulfide: (Cation conc. entered: 0.6 mg/kg, converted to compound conc.: 0.771 mg/kg or 0.0000771%, Note 1 conc.: 0.00006%)
 chromium(III) oxide: (Cation conc. entered: 26.3 mg/kg, converted to compound conc.: 38.439 mg/kg or 0.00384%)
 chromium(VI) oxide: (Cation conc. entered: <0.8 mg/kg, converted to compound conc.: <1.538 mg/kg or <0.000154%)
IGNORED Because: "<LOD"
 chrysene: (Whole conc. entered as: <0.1 mg/kg or <0.00001%) **IGNORED Because: "<LOD"**
 copper (I) oxide: (Cation conc. entered: 63.4 mg/kg, converted to compound conc.: 71.381 mg/kg or 0.00714%)
 cyanides (with the exception of complex cyanides): (Whole conc. entered as: <1 mg/kg or <0.0001%) **IGNORED Because: "<LOD"**
 dibenz[a,h]anthracene: (Whole conc. entered as: <0.1 mg/kg or <0.00001%) **IGNORED Because: "<LOD"**
 ethylbenzene: (Whole conc. entered as: <10 mg/kg or <0.001%) **IGNORED Because: "<LOD"**
 fluoranthene: (Whole conc. entered as: 0.2 mg/kg or 0.00002%)
 fluorene: (Whole conc. entered as: <0.1 mg/kg or <0.00001%) **IGNORED Because: "<LOD"**
 indeno[123-cd]pyrene: (Whole conc. entered as: <0.1 mg/kg or <0.00001%) **IGNORED Because: "<LOD"**
 lead compounds (with the exception of those listed separately in this Annex): (Cation conc. entered: 190 mg/kg, converted to compound conc.: 286.9 mg/kg or 0.0287%, Note 1 conc.: 0.019%)
 mercury dichloride: (Cation conc. entered: <0.5 mg/kg, converted to compound conc.: <0.677 mg/kg or <0.0000677%)
IGNORED Because: "<LOD"
 naphthalene: (Whole conc. entered as: <0.1 mg/kg or <0.00001%) **IGNORED Because: "<LOD"**
 nickel dihydroxide: (Cation conc. entered: 20.5 mg/kg, converted to compound conc.: 32.38 mg/kg or 0.00324%)
 pH: (Whole conc. entered as: 8.5 pH, converted to conc.: 8.5 pH or 8.5 pH)
 phenanthrene: (Whole conc. entered as: <0.1 mg/kg or <0.00001%) **IGNORED Because: "<LOD"**
 phenol: (Whole conc. entered as: <5 mg/kg or <0.0005%) **IGNORED Because: "<LOD"**
 pyrene: (Whole conc. entered as: 0.1 mg/kg or 0.00001%)

selenium compounds (with the exception of cadmium sulfoselenide and sodium selenite): (Cation conc. entered: 1 mg/kg, converted to compound conc.: 1.5 mg/kg or 0.00015%)
toluene: (Whole conc. entered as: <10 mg/kg or <0.001%) **IGNORED Because: "<LOD"**
TPH (C6 to C40) petroleum group: (Whole conc. entered as: 1.3 mg/kg or 0.00013%)
xylene: (Whole conc. entered as: <10 mg/kg or <0.001%) **IGNORED Because: "<LOD"**
zinc chromate: (Cation conc. entered: 85.5 mg/kg, converted to compound conc.: 237.19 mg/kg or 0.0237%)

Test Settings

HP 3(i) on Flam. Liq. 1; H224, Flam. Liq. 2; H225, Flam. Liq. 3; H226: **Force this test to non hazardous because: "Contaminant present at very low levels in wet soil mixture. Not flammable."**

Notes utilised in assessment

C14: Step 5

"identify whether any individual ecotoxic substance is present at or above a cut-off value ..." , used on:

Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "arsenic trioxide"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "benzo[b]fluoranthene"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "chromium(III) oxide"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "copper (I) oxide"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "fluoranthene"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "lead compounds (with the exception of those listed separately in this Annex)"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "nickel dihydroxide"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "pyrene"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "selenium compounds (with the exception of cadmium sulfoselenide and sodium selenite)"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "zinc chromate"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "TPH (C6 to C40) petroleum group"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "cadmium sulfide"

Note 1 , used on:

Test: "HP 5 on STOT SE 1; H370, STOT RE 1; H372" for determinand: "cadmium sulfide"
Test: "HP 5 on STOT SE 2; H371, STOT RE 2; H373" for determinand: "cadmium sulfide"
Test: "HP 6 on Acute Tox. 4; H302" for determinand: "cadmium sulfide"
Test: "HP 6 on Acute Tox. 4; H332" for determinand: "lead compounds (with the exception of those listed separately in this Annex)"
Test: "HP 7 on Carc. 1A; H350, Carc. 1A; H350i, Carc. 1B; H350, Carc. 1B; H350i" for determinand: "cadmium sulfide"
Test: "HP 7 on Carc. 2; H351" for determinand: "lead compounds (with the exception of those listed separately in this Annex)"
Test: "HP 10 on Repr. 1A; H360, Repr. 1A; H360F, Repr. 1A; H360D, Repr. 1A; H360FD, Repr. 1A; H360Fd, Repr. 1A; H360Df, Repr. 1B; H360, Repr. 1B; H360F, Repr. 1B; H360D, Repr. 1B; H360FD, Repr. 1B; H360Fd, Repr. 1B; H360Df" for determinand: "lead compounds (with the exception of those listed separately in this Annex)"
Test: "HP 10 on Repr. 2; H361, Repr. 2; H361f, Repr. 2; H361d, Repr. 2; H361fd" for determinand: "lead compounds (with the exception of those listed separately in this Annex)"
Test: "HP 11 on Muta. 2; H341" for determinand: "cadmium sulfide"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "lead compounds (with the exception of those listed separately in this Annex)"

Determinand notes

Note 1 , used on:

determinand: "cadmium sulfide"
determinand: "lead compounds (with the exception of those listed separately in this Annex)"

Note A , used on:

determinand: "lead compounds (with the exception of those listed separately in this Annex)"
determinand: "selenium compounds (with the exception of cadmium sulfoselenide and sodium selenite)"

determinand: "zinc chromate"

WM3: Unknown oil , used on:

determinand: "TPH (C6 to C40) petroleum group"

Appendix A: Classifier defined and non CLP determinands

acenaphthene (CAS Number: 83-32-9)

Comments: Risk phrase data taken from European Chemicals Agency's Classification & Labelling Inventory

Data source:

<http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=133563&HarmOnly=no>

Data source date: 16/07/2012

Risk Phrases: R36, R37, R38, N; R50/53, N; R51/53

Hazard Statements: Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Aquatic Acute 1; H400, Aquatic Chronic 1; H410, Aquatic Chronic 2; H411

acenaphthylene (CAS Number: 208-96-8)

Comments: Risk phrase data taken from European Chemicals Agency's Classification & Labelling Inventory

Data source:

<http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=59285&HarmOnly=no>

Data source date: 16/07/2012

Risk Phrases: R22, R26, R27, R36, R37, R38

Hazard Statements: Acute Tox. 4; H302, Acute Tox. 1; H330, Acute Tox. 1; H310, Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315

anthracene (CAS Number: 120-12-7)

Comments: Risk phrase data taken from European Chemicals Agency's Classification & Labelling Inventory

Data source:

<http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=101102&HarmOnly=no>

Data source date: 08/03/2013

Risk Phrases: R36, R37, R38, R43, N; R50/53

Hazard Statements: Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Skin Sens. 1; H317, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

benzo[ghi]perylene (CAS Number: 191-24-2)

Comments: Risk phrase data taken from European Chemicals Agency's Classification & Labelling Inventory

Data source:

<http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=15793&HarmOnly=no>

Data source date: 16/07/2012

Risk Phrases: N; R50/53

Hazard Statements: Aquatic Acute 1; H400, Aquatic Chronic 1; H410

boron tribromide/trichloride/trifluoride (combined)

Comments: Combines the risk phrases and the average of the conversion factors for Boron tribromide, Boron trichloride and Boron trifluoride

Data source: N/A

Data source date: 10/01/2011

Risk Phrases: R14, T+; R26/28, C; R34, C; R35

Hazard Statements: EUH014, Acute Tox. 2; H330, Acute Tox. 2; H300, Skin Corr. 1A; H314, Skin Corr. 1B; H314

chromium(III) oxide (CAS Number: 1308-38-9)

Comments: Risk phrase data taken from European Chemicals Agency's Classification & Labelling Inventory

Data source: <http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=33806&HarmOnly=no?fc=true&lang=en>

Data source date: 26/11/2012

Risk Phrases: R20, R22, R36, R37, R38, R42, R43, R50/53, R60, R61

Hazard Statements: Acute Tox. 4; H332, Acute Tox. 4; H302, Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Resp. Sens. 1; H334, Skin Sens. 1; H317, Repr. 1B; H360FD, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

ethylbenzene (CAS Number: 100-41-4)

CLP index number: 601-023-00-4

Data source: Commission Regulation (EU) No 605/2014 – 6th Adaptation to Technical Progress for Regulation (EC) No 1272/2008. (ATP6)

Additional Risk Phrases: None.

Additional Hazard Statements: Carc. 2; H351

Reason:

03/06/2015 - Carc. 2; H351 hazard statement sourced from: IARC Group 2B (77) 2000

fluoranthene (CAS Number: 206-44-0)

Comments: Risk phrase data taken from European Chemicals Agency's Classification & Labelling Inventory
Data source:
<http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=56375&HarmOnly=no>
Data source date: 16/07/2012
Risk Phrases: R20, R22, R36, N; R50/53
Hazard Statements: Acute Tox. 4; H302, Acute Tox. 4; H332, Eye Irrit. 2; H319, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

fluorene (CAS Number: 86-73-7)

Comments: Risk phrase data taken from European Chemicals Agency's Classification & Labelling Inventory
Data source:
<http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=81845&HarmOnly=no>
Data source date: 16/07/2012
Risk Phrases: N; R50/53, R53
Hazard Statements: Aquatic Acute 1; H400, Aquatic Chronic 1; H410, Aquatic Chronic 4; H413

indeno[123-cd]pyrene (CAS Number: 193-39-5)

Comments: Risk phrase data taken from European Chemicals Agency's Classification & Labelling Inventory
Data source:
<http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=128806&HarmOnly=no>
Data source date: 08/03/2013
Risk Phrases: R40
Hazard Statements: Carc. 2; H351

lead compounds (with the exception of those listed separately in this Annex)

CLP index number: 082-001-00-6
Data source: Regulation 1272/2008/EC - Classification, labelling and packaging of substances and mixtures. (CLP)
Additional Risk Phrases: None.
Additional Hazard Statements: Carc. 2; H351
Reason:
03/06/2015 - Carc. 2; H351 hazard statement sourced from: Larsen et al., 2014; Survey of lead and lead compounds, Environmental Project No. 1539, The Danish Environmental Protection Agency

pH

Comments: Appendix C, C4.5
Data source: WM2 - Interpretation of the definition and classification of hazardous waste (Second Edition, version2.2), Environment Agency
Data source date: 30/05/2008
Risk Phrases: None.
Hazard Statements: None.

phenanthrene (CAS Number: 85-01-8)

Comments: Risk phrase data taken from European Chemicals Agency's Classification & Labelling Inventory
Data source:
<http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=109754&HarmOnly=no>
Data source date: 16/07/2012
Risk Phrases: R22, R36, R37, R38, R40, R43, N; R50/53
Hazard Statements: Acute Tox. 4; H302, Eye Irrit. 2; H319, STOT SE 3; H335, Carc. 2; H351, Skin Sens. 1; H317, Aquatic Acute 1; H400, Aquatic Chronic 1; H410, Skin Irrit. 2; H315

pyrene (CAS Number: 129-00-0)

Comments: Risk phrase data taken from European Chemicals Agency's Classification & Labelling Inventory
Data source:
<http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=87484&HarmOnly=no>
Data source date: 16/07/2012
Risk Phrases: R23, N; R50/53
Hazard Statements: Acute Tox. 3; H331, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

TPH (C6 to C40) petroleum group

Comments: Risk phrase data given on page A41

Data source: WM2 3rd edition, 2013

Data source date: 01/08/2013

Risk Phrases: R10, R45, R46, R51/53, R63, R65

Hazard Statements: Flam. Liq. 3; H226, Asp. Tox. 1; H304, STOT RE 2; H373, Muta. 1B; H340, Carc. 1B; H350, Repr. 2; H361d, Aquatic Chronic 2; H411

Appendix B: Notes

C14: Step 5

from section: WM3: C14 in the document: "[WM3 - Waste Classification](#)"

"identify whether any individual ecotoxic substance is present at or above a cut-off value ..."

Note 1

from section: 1.1.3.2, Annex VI in the document: "[CLP Regulations](#)"

"The concentration stated or, in the absence of such concentrations, the generic concentrations of this Regulation (Table 3.1) or the generic concentrations of Directive 1999/45/EC (Table 3.2), are the percentages by weight of the metallic element calculated with reference to the total weight of the mixture."

Note A

from section: 1.1.3.1, Annex VI in the document: "[CLP Regulations](#)"

"Without prejudice to Article 17(2), the name of the substance must appear on the label in the form of one of the designations given in Part 3. In Part 3, use is sometimes made of a general description such as '... compounds' or '... salts'. In this case, the supplier is required to state on the label the correct name, due account being taken of section 1.1.1.4."

WM3: Unknown oil

from section: Chapter 3: 4. Waste oils and other wastes containing or contaminated with oil in the document: "[WM3 - Waste Classification](#)"

"If the identity of the oil is unknown, and the petroleum group cannot be established, then the oil contaminating the waste can be classified as non-carcinogenic due to the presence of oil if all three of the following criteria are met:

- the waste contains **benzo[a]pyrene (BaP)** at a concentration of less than 0.01% (1/10,000th) of the TPH concentration (This is the carcinogenic limit specified in table 3.2 of the CLP for BaP)
- this has been determined by an appropriate and representative sampling approach in accordance with the principles set out in Appendix D, and
- the analysis clearly demonstrates, for example by carbon bands or chromatograph, and the laboratory has reasonably concluded that the hydrocarbons present have not arisen from petrol or diesel

"

Appendix C: Version

Classification utilises the following:

- CLP Regulations - Regulation 1272/2008/EC of 16 December 2008
- 1st ATP - Regulation 790/2009/EC of 10 August 2009
- 2nd ATP - Regulation 286/2011/EC of 10 March 2011
- 3rd ATP - Regulation 618/2012/EU of 10 July 2012
- 4th ATP - Regulation 487/2013/EU of 8 May 2013
- Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
- 5th ATP - Regulation 944/2013/EU of 2 October 2013
- 6th ATP - Regulation 605/2014/EU of 5 June 2014
- WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
- Revised List of Wastes 2014 - Decision 2014/955/EU of 18 December 2014
- WM3 - Waste Classification - May 2015
- 7th ATP - Regulation 2015/1221/EU of 24 July 2015
- POPs Regulation 2004 - Regulation 850/2004/EC of 29 April 2004
- 1st ATP to POPs Regulation - Regulation 756/2010/EU of 24 August 2010
- 2nd ATP to POPs Regulation - Regulation 757/2010/EU of 24 August 2010

HazWasteOnline Engine: WM3 1st Edition, May 2015
HazWasteOnline Engine Version: 2015.253.2954.5948 (10 Sep 2015)
HazWasteOnline Database: 2015.247.2953.5943 (04 Sep 2015)

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Appendix D

Report to Regulation Panel 22 February 2016 – Public Footpath ZF5

Response to Consultation

1. During June and July 2015 the Public Rights of Way and Access Service consulted residents, user groups, local elected members and representative bodies on its preferred option to resolve the long term obstruction of Public Footpath ZF5 at Faversham Reach. Option 1, proposed the diversion of the obstructed length of Public Footpath ZF5 to run beside Faversham Creek, through Faversham Reach and Waterside Close Estates. This option would require the construction of two ramps to provide access to the estates and a cantilever walkway to provide safe access around a slipway.
- 2 In addition Amey, the County Council's engineering consultant were tasked with providing a detailed feasibility report for the construction of ramps and a cantilever walkway including outline options for construction with indicative costings.
- 3 73 responses were received to the consultation: 35 in support of Option 1, 38 objecting to Option 1. This appendix summarises and responds to the points raised in response to the consultation.

Support

- 4 Many of the 35 responses received expressing support for the proposal did so in generic terms, stating a preference for a route following the creek-side
5. The main points made in support of the proposal, specifically option1, are:
 - a) *There is no loss of creek-side views in comparison with the current available route, indeed views of the creek are maximised.*
 - b) *The proposed route is of higher amenity.*
 - c) *Option 1 would meet all of the requirements for coastal access for the England Coast Path and remove any doubt about the extent, nature and accessibility of the coastal access margin.*
 - d) *The proposal would minimise disruption to residents. It would enable the access gates to Faversham Reach to be closed to the public.*
 - e) *Option 1 provides the access to the creek that many locally have sought.*
 - f) *Option 1 most closely reflects the observations and decision of the Planning Inspectorate's Inspector in her decision reference FPS/W2275/6/4 & 3/12.*

- g) Support was expressed for option 1 as it enables both access at Faversham Reach and the outstanding Waterside Close section 106 agreement to be considered in a coherent way.*
- h) The intention at the time of the construction of Waterside Close was to provide a creek-side route.*
- i) Option 1 would provide direct access to the town for residents of both estates should they wish to use it. The route would provide a more direct route from the town to the marshes.*
- j) Option 1 provides access along what was an ancient towpath.*
- k) Option 1 would deliver the access identified in the Streetscape Strategy and draft Neighbourhood Plan.*
- l) Option 1 delivers benefits to health and well-being provided by waterside access.*
- m) The route would be the one most easily followed by walkers.*
- n) Option 1 removes the continuing blight to 5 homes.*
- o) A leader of health walks, with 30-40 regular participants, in the area indicates that if option 1 were delivered then the route would be used for such walks.*
- p) The cost of the provision of ramps would be small in comparison of to the public benefit that would be delivered.*
- q) Diversion of the route is the only remaining option following the Inspector's decision.*

Many of the reasons given in support of the proposal are equally matters raised by objectors, and explored in greater detail below:

Objections and representations

The status and alignment of Public Footpath ZF5

6. *Many objecting to the proposed diversion questioned the validity of the recording of Public Footpath ZF5 suggesting that it should run further inland to Ham Farm, on the route that has been promoted for the Saxon Shore Way since 1980. Ordnance Survey sheet 172 produced in 1972 was cited as evidence that the route had been incorrectly recorded in 1970, an error reflected on later versions of the Definitive Map and Statement 1 April 1987 and 31 May 2013. One objector suggested that given the many amendments to the DMS since its original productionⁱ, error is common place and the DMS cannot be relied upon.*

7. Position of the PROW and Access Service:

The Definitive Map and Statement provide conclusive evidence at law as to its contents.

There is no suggestion that due process was not followed in recording ZF5 on the DMS; a process that allowed for objection by interested parties.

Once established a public right of way may only be extinguished through a legal event, such as a legal order or in consequence of a Parliamentary Act.

The majority of the amendments to the DMS reflect changes as a result of legal orders that relate to desired changes requested by landowners or orders to facilitate development, the construction of CTRL and numerous roads.

Definitive Map Modification Orders to amend the DMS as it is in some way in error are relatively few and generally relate to omissions or rights that have been acquired through use. I'm not aware of any PROW being removed from the DMS for Kent on the basis that they were incorrectly recorded.

8. Mere disuse does not result in the loss of the right.

9. Ordnance Survey Sheet 172 -1972 must be viewed in the context in which it was produced. It does not purport to show public rights of way, it reflects a topographic survey the purpose of which is to record physical features. In that respect it reflects the widely accepted position that access to Public Footpath ZF5 was not possible, or at least difficult, following the construction of the ship yard wall in 1938.

10. The Ordnance Survey 2nd Edition and 3rd Edition show a route that very closely approximates to the route of ZF5 recorded at Faversham Reach. The submission of the joint objectors to the Public Inquiry in May 2014 contained evidence that the route of ZF5 was physically in existence.

11. Case law establishes a high bar for the amendment of the DMS. There must be sufficient cogent evidence to show that the Definitive Map and Statement requires amendment .

12. It has been open to anybody at any time since 1981 to apply to have the DMS amended on the basis that a public right of way is omitted, should be recorded in some other way or removed altogether. This information has been freely available to all parties and advice has previously been given. No application has been received to amend the DMS on the basis that ZF5 is incorrectly recorded.

13. The County Council has not discovered any evidence that would cause it to make an order to amend or remove Public Footpath ZF5 from the DMS on the basis that it is incorrectly recorded. What evidence has been presented to the County Council, or is in its possession, weighs in favour of ZF5 having been correctly recorded.

The do nothing option

14. *A number of objectors including a District Councillor suggested that it is within the County Council's powers to allow the current situation, of the obstruction of the definitive alignment of Public Footpath ZF5 to continue; in effect to do nothing.*

15. Position of the PROW and Access Service:

The County Council is under an obligation to assert and protect the right of the public to the use and enjoyment of the public highway and to prevent the obstruction of it. Failure to act not only results in the public being deprived of the use of the public right of way but also exposes the County Council to action in the Court's and a Local Government Ombudsman complaint.

16. There are also continued implications for the owners of the five properties obstructing the footpath. It is argued that these properties have been sold in the past, including two in recent times, and that the existence of the public right of way had no detrimental impact on those sales or the price received for the property. I'm aware in the case of one of the property sales the existence of the public right of way was considered in detail before the purchase went ahead and the purchaser was aware of and prepared to accept the risk. I am also aware of significant delay to another sale. It cannot be assumed that as two purchases have proceeded without any detrimental impact that future sales would result in a similar outcome.

17. Aside from the points raised above it is simply not appropriate to allow the matter to drop into abeyance:

- a) Considerable time and money has already been expended in seeking a solution,
- b) The creation of the England Coast Path further highlights the obstruction of the right of way and poses further questions about access issues
- c) There is no reason to suppose that if allowed to drop the matter would not simply re-emerge at a later date.

Public Inquiry Decision

18. *A number of residents of Faversham Reach felt that the extinguishment of the obstructed section of ZF5 through Faversham Reach should be pursued again, as a forth option.*

19. Position of the PROW and Access Service:

This is simply not an option that is available. The Order to extinguish has already been independently considered by a Planning Inspector on behalf of the Secretary of State, following a four day public inquiry. The Order was not confirmed. That decision was not challenged by the County Council as it

appeared that the decision was correct in law and its application of Government policy. Nor was the decision challenged by any other party.

20. There is no precedent that I am aware of for an order to be made that is identical in effect to an order that had previously been considered by the Secretary of State and, for want of a better term, rejected. It fails to demonstrate appropriate deference for the earlier decision on behalf of the Secretary of State. It also shows considerable optimism in clearly anticipating a different outcome, given that statute law, case law and policy remain the same.

Safety

21. The potential risks to the public from creek side access were cited by a great many residents. The area around the slipway was highlighted as a particular risk, along with material laying in the creek bed, high tides and fast flows. Rails or fencing beside the creek are requested as a measure to improve safety.

22. Position of the PROW and Access Service:
The section of creek-side walkway at Waterside Close was specifically designed with public access in mind. The creek-side access at Faversham Reach is of similar design. Other than at the proposed ramps the width is greater than 2 metres wide; there is plenty of room for users to pass. The area is level and trip free. It is clearly defined; the creek side of the path is particularly well delineated by the pile capping.

23. It is accepted that all locations should be considered on their merits taking account of the nature of any hazards, the number and type of users and the potential risks to those users. Safety rails are considered necessary for the ramps and cantilever walkway as a result of the narrower width at these points.

24. Option 1 does not appear to pose a risk to users that is out of line with those present on the many miles of waterside paths in Kent and beyond. Much of this access runs beside creeks, tidal river sections, along quaysides, harbours, marinas, steep banks, unguarded cliff edges; such areas do not universally have safety barriers, commonly they don't. While there is liability on the occupier for the safety of visitors to the property this has to be balanced with the general obligation of any highway user to use the highway safely accounting for conditions.

Security

25. Objectors, and residents in particular, point to the security that they enjoy from living in what they consider to be gated community, to property, private moorings and person. It is cited as a principal reason for purchasing property at Waterside Close and Faversham Reach. Incidents of criminal and anti-social behaviour are given, in the main relating to interference with and theft from moored vessels. The Faversham Reach Residents Association had

railings erected to prevent access into the estate from Crab Island [and Waterside Close] in order to prevent such activity. There have been recent reports of further incidents.

26. Position of the PROW and Access Service:

Criminal and anti-social behaviour in the Faversham Creek area is at relatively low levels when considered as a percentage of all crime and antisocial behaviour within Swale Borough. Street level data for Faversham Reach and Waterside Close for the period November 2014 to October 2015, indicates low levels of crime and anti-social behaviour : 5 reported instances for Faversham Reach and 12 for Waterside Close. Detailed analysis is difficult without full access to the background information. There does not appear to be a correlation between public access and crime and anti-social behaviour.

27. While considered a gated community by the residents, Faversham Reach is not a gated community. Faversham Reach is subject to public access; the public may deviate around obstructions to public rights of way on land in the same ownership. Those owners of properties in Faversham Reach that obstruct the public footpath are equally owners [in part] of the communal areas of Faversham Reach.

28. Waterside Close was not developed as a gated community. Public access along the creek was envisaged throughout the planning process. Design of the estate reflects this. A section 106 agreement was put in place to deliver public access.

Section 106 agreement

29. Position of the PROW and Access Service:

The developer's intention to deliver the agreed access is plain in the correspondence dating back to 2002, notwithstanding the practical difficulties that have been encountered by the Planning Authority in seeking to bring this to fruition in the period since the development was started.

Maintenance

30. Position of the PROW and Access Service:

Public paths brought into being through diversion or creation orders are maintainable at the public expense. If Option 1 were to be successfully implemented the surface of the footpath, ramps and cantilever walkway would be publically maintainable highway as would any safety rails erected by the highway authority. Incidental infrastructure although not proposed (such as lighting) would be publically maintainable. The retaining walls/ creek defences over which a path would run are integral to the structural stability of the estate. The highway authority would not be in a position to accept any liability for these structures.

Compensation. impact on property values

31. *Waterside Close Residents Association Ltd point to the fact that those buying within a gated community do so for a reason and that a premium is paid for direct secure waterside access.*

32. *A number of residents assert that public access would have a significant adverse impact on property prices and that compensation would be sought.*

33. Position of the PROW and Access Service:

The successful creation or diversion of a public footpath triggers the compensation provisions within the Highways Act 1980ⁱⁱ. These provisions are only triggered if an order is confirmed. Compensation is limited to those that can show that a value in interest in the land is depreciated or has suffered damage by being disturbed in their enjoyment of land. Claims for compensation must be submitted within 6 months of the coming into operation of an order. Disputes are adjudged by the Lands Tribunal.

34. Faversham Reach is already subject to public access, albeit that the public footpath is obstructed. It was intended that the creek-side would also be accessible through Waterside Close. Both of these facts are likely to substantially limit any compensation.

35. Compensation is not payable in respect of the England Coast Path and coastal access margin.

36. The impact of the cantilever walkway on the slipway is di-minimis. The feasibility report indicates that it will not prevent the launching of boats and should not restrict the size of boats that may be launched.

England Coastal Path and Access Margin

37. Position of the PROW and Access Service:

Government is committed to the creation of the England Coast Path, providing continuous access on foot around the coast of England. The England Coast Path is to have national trail status. Land seaward of the trail is to be coastal access margin to which the public will enjoy access on foot for the purposes of open air recreation.

38. Kent was a one of the first areas to be considered for the creation of the England Coast Path (ECP), the first stretch being Ramsgate to Folkestone. Whitstable to Iwade forms stretch 4 in Kent. Natural England opened consultation to establish the alignment of the ECP for stretch 4 in September 2015. The provisional programme would see final approval by the Secretary of State for the proposed alignment in October 2016ⁱⁱⁱ.

39. The Public Rights of Way and Access Service has worked closely with Natural England in both defining the alignment of the ECP and establishing the route on the ground. Given the specific issues relating to Faversham Creek the Service has stepped back from involvement in defining the route of the ECP in this area to enable Natural England to reach an independent view.

40. The scheme^{iv} setting out how the route is to be provided establishes a number of exceptions, where the coastal access rights will not apply; this includes (at Figure 1) “land covered by buildings or the curtilage of buildings”.

41. It is not at all clear if Natural England will consider that the communal areas of Faversham Reach or Waterside Close are excepted areas or form part of the coastal access margin.

Ramp design and cantilever walkway – feasibility – detail and cost

42. *Many points were raised in respect of the feasibility, design and the limitations to the design of ramps and the cantilever walkway.*

43. Position of the PROW and Access Service:
Amey, the County Council’s Engineering consultant was commissioned to undertake a detailed feasibility study identifying constraints to the site and to provide outline designs for ramps and a cantilever walkway that reflect the constraints at the site. The outline designs would also assist in producing an informed estimate of the costs associated with the work; both the costs of construction and the ongoing costs of maintenance.

44. The feasibility report indicates that there are no practical engineering matters that would prevent construction.

The feasibility report and outline designs are provided as Appendix B.

Cost and Funding

45. Position of the PROW and Access Service:
A number of matters were raised by respondents relating to the cost of delivering Option 1. Prior to the completion of the outline designs the cost of delivering Option 1 was unknown. A figure had previously been provided for the provision of the route in the Streetscape Strategy of £90K although the provenance of this figure is unknown. Clearly the outline design provides a firmer basis on which to found consideration of the costs of the scheme.

46. The estimated cost of the PROW and Access Services preferred designs is £92979. Solid ramp constructions at all locations are estimated as costing £125725. Were all elements to be delivered the actual cost may of course vary significantly if works were tendered. The PROW and Access Service would expect lower costs to be achieved than estimated. However the estimated cost represents a significant investment.

47. Many objectors identify other matters, particularly the Bridge Road bridge and improved flood defences as a greater priority for the public purse. My understanding is that funding has already been allocated for improved flood defences and that there are commitments in place in respect of the bridge albeit the final design will very much depend on the funding raised locally.

48. These projects and others identified in the Streetscape Strategy and draft Neighbourhood Plan are not mutually exclusive. All are delivered through different budgets, different funding streams and by different public bodies.

49. If simply doing nothing is ruled out as an option, as I believe that it should be, then there are simply no low cost/ no cost solutions. Even if another option were taken to divert the path within Faversham Reach a ramp would be required to provide access. Feasibility work has already incurred costs as did the previous extinguishment proposal for Faversham Reach.

50. A number of the objectors to Option 1 did not feel that the short length of creek side access made available to the public warranted the expense to the public purse, that cost outweighed benefit.

51. As stated above the costs are significant. The proposal does deliver the creek side access desired by, at least a proportion of the local community. The proposal addresses two long standing matters that should have been addressed many years ago.

52. The consultation indicated that the costs of provision would be met through a number of sources. Having more accurately established the cost of Option 1 it is clear that the commitments from charitable sources still leave a substantial amount to be found by Swale Borough Council and Kent County Council against a back drop of continued financial pressure. There would be significant risk to making Orders with the intention of delivering creek side access if those Orders could not be implemented. Clearly how the full costs of construction of the ramps and walkway would be met would have to be understood and secure before making any orders.

To date contributions have been identified from The Faversham Municipal Charities, Bensted Charities. Swale Borough Council has indicated that it will contribute to the cost. The Kent County Council elected Member for the area has indicated that he would support the creation of the route through Member Fund if available.

53. Potential funding for the work may also be available from Natural England for establishment work were the England Coast Path to be established along the creek.

The Faversham Creek Streetscape Strategy and the Faversham Creek Neighbourhood Plan

54. The Faversham Creek Streetscape Strategy identifies the possibility of improving access to the creek by making a connection between public footpath ZF5 at Crab Island and the Faversham Creek/ Waterside Close quayside path and on to meet public footpath ZF32.

55. The Submitted Faversham Creek Neighbourhood Plan - identifies creek-side access as one of its aims. Option 1 if implemented would be in accord with this aim. The examination into the NP was held 5th – 7th October last year and we are currently awaiting the Examiner's report. The plan has yet to be put to a local referendum for adoption.

Appendix E

Type of Orders

A technical point was raised in respect of potential hurdles to the use of a public path diversion order to deliver the creek-side access. Specifically it is thought that it may be difficult to satisfy the test set out in the Highways Act 1980 section 119 (2)(b) "A public path diversion order shall not alter a point of termination of the path or way – (where it is on a highway) otherwise to a point which is on the same highway, or a highway connected with it, and which is substantially as convenient to the public."

Position of the PROW and Access Service:

The PROW and Access Service accept this view as the point of termination of the proposed route is approximately 435 metres from the original termination point on Upper Brents. Therefore , even if it is accepted that this point is on a highway connected to the original highway on which the path terminated, it could clearly be argued that this point is not substantially as convenient.

Should Option 1 be pursued it is considered that two Orders would be required:

1) A partial extinguishment of ZF5 (as shown on the Proposals Plan rev 1) sections A-B1-E and F-X on the basis that those sections are no longer needed as access A – X is provided by the long existing path A –B-X which is subject to a Definitive Map Modification Order application, and was accepted as highway at the Public Inquiry.

2) A creation of a public footpath over sections B-C-D-E, and F-G-H-I-J-K-L-M Public Footpath ZF5 section E-F to be retained.

This would overcome the existing obstruction to Public Footpath ZF5 by development and provide continuous creek side access.

It is considered that this amended proposal for concurrent but independent Orders meets the tests for extinguishment and creation as set out in the Highways Act 1980: These being

Creation by Order:

Highways Act 1980 section 26:

(1) Where it appears to a local authority that there is need for a footpath or bridleway over land in their area and they are satisfied that, having regard to—

(a) the extent to which the path or way would add to the convenience or enjoyment of a substantial section of the public, or to the convenience of persons resident in the area, and

(b) the effect which the creation of the path or way would have on the rights of persons interested in the land, account being taken of the provisions as to compensation contained in section 28 below,

it is expedient that the path or way should be created, the authority may by order made by them and submitted to and confirmed by the Secretary of State, or confirmed by them as an unopposed order, create a footpath or bridleway over the land.

Stopping up of footpaths and bridleways.

Highways Act 1980 section 118

(1) Where it appears to a council as respects a footpath or bridleway in their area (other than one which is a trunk road or a special road) that it is expedient that the path or way should be stopped up on the ground that it is not needed for public use, the council may by order made by them and submitted to and confirmed by the Secretary of State, or confirmed as an unopposed order, extinguish the public right of way over the path or way

(2) The Secretary of State shall not confirm a public path extinguishment order, and a council shall not confirm such an order as an unopposed order, unless he or, as the case may be, they are satisfied that it is expedient so to do having regard to the extent (if any) to which it appears to him or, as the case may be, them that the path or way would, apart from the order, be likely to be used by the public, and having regard to the effect which the extinguishment of the right of way would have as respects land served by the path or way, account being taken of the provisions as to compensation contained in section 28 above as applied by section 121(2) below.

ⁱ 1889 amendments to the Definitive Map and Statement (2014)

ⁱⁱ Highways Act 1980 s28 (applicable to diversions HA1980 sec 121(2))

ⁱⁱⁱ Natural England produce a report detailing the alignment following consultation and negotiation. Objection may be made to the report and these objections may be determined by the Secretary of State - through written representations, hearing or Public Inquiry.

^{iv} Coastal Access Natural England's Approved Scheme 2013.

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