

Scottish Water Solutions:

Tarbert WTW Upgrade

**Archaeological Desk-based
Assessment and Walk over survey**

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1 Introduction

1.1 General

- 1.1.1 Jacobs UK has been commissioned by Scottish Water Solutions to carry out an assessment and walk over survey of the Cultural Heritage resource that may potentially be affected by the insertion of a replacement mains and new discharge pipes at Bagh Charragraich near Tarbert on Harris (NGR NG 1961898812, centred, approx.)
- 1.1.2 The extent of these works commences at its northernmost point from the dam at the south end of Loch Braigh na h-barich (NGR NG 19492 99286,) to the existing filters and tank (NGR: NG 1958798949.) The proposed mains upgrade then continues downhill to an area of approximately 5.5 square metres, which incorporates an area marked for a new pump house at NGR: NG 19623 98703.
- 1.1.3 At this point, two potential options for the route of the new discharge pipe continue to the south into the bay. Option 1 extends from the eastern side of the main road at NGR: NG 196 986 along the western side of the burn Adhainn Charragroich to NGR: NG 195 985. The second option extends from the proposed pump mains at NGR: NG 196 985 in a southerly direction to NGR: NG 196 984. See Figure 1 for an overview of this route.
- 1.1.4 The assessment found a total of ten sites of archaeological and historical interest along and close to the proposed routes of the gravity mains. The archaeological remains noted within the landscape and within the corridor were of Less than Local, Local and Regional Importance.
- 1.1.5 The risk to the archaeological heritage posed by the proposed replacement pipeline construction includes the destruction of unknown archaeological remains which may survive below ground. These are undetectable until they are unearthed in the process of excavating any foundations.
- 1.1.6 The desk based and walkover surveys have revealed that the pipeline route is in a rural location going through areas of exposed, rocky and steep pasture of poor quality.
- 1.1.7 Jacobs UK conforms to the standards of professional conduct outlined in the Institute of Field Archaeologists Code of conduct, and relevant Standards and Guidance documents. Jacobs UK is a Registered Archaeological Organisation (RAO) with the Institute of Field Archaeologists (IFA). This status ensures that there is regular monitoring and approval by external peers of our internal systems, standards and skills development.

1.2 Terms of reference

- 1.2.1 This Desk Based Assessment considers the affects of the proposed development on the entire historic environment including archaeological sites and monuments, historic buildings and their environs, historic gardens and landscapes.

1.2.2 For the purposes of this study, all readily available sources of information held by the relevant heritage bodies, were consulted, as well as secondary documentary sources, some manuscript sources, historic maps and aerial photographs. Data on the historic environment was acquired from the following sources:

- *Historic Scotland for Ancient Monuments, Listed Buildings, Designed Landscapes, Parks and Gardens and Historic Battlefields;*
- *The Western Isles Council (Comhairle nan Eilean Siar) Sites and Monuments Record (SMR);*
- *National Monuments Record of Scotland (NMRS);*
- *Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS);*
- *Vertical and Oblique Aerial Photographs held by the RCHAMS*
- *Early Maps held in the National Map Library of Scotland.*

1.2.3 The historic environment is protected by a number of statutory and non-statutory designations which include the following:

- *Scheduled Ancient Monuments;*
- *Identified archaeological sites;*
- *Conservation Areas;*
- *Listed historic buildings and structures;*
- *Locally listed historic buildings and structures;*
- *Historic Gardens;*
- *Designed landscapes.*

2 Planning and Legislative Background

2.1 Main Legislation

2.1.1 This Desk Based Assessment has been carried out within the framework of the following legislation and planning policy:

- *Ancient Monuments and Archaeological Areas Act 1979 (hereafter 1979 act);*
- *Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 (1997 Act);*
- *National Planning Policy Guideline 5, Archaeology and Planning (NPPG 5);*
- *National Planning Policy Guideline 18, Planning and the Historic Environment (NPPG 18);*
- *Planning Advice Note 42, Archaeology (PAN 42); and*
- *Western Isles Structure Plan (2003).*
- *Western Isles Local Plan, 2007.*

2.2 Scheduled Ancient Monuments

2.2.1 Scheduled ancient monuments are of national importance and it is particularly important that they are preserved in situ and within an appropriate setting. Developments, which would have an adverse effect on scheduled monuments or the integrity of their settings, should not be permitted unless there are exceptional circumstances. Scheduled monument consent (SMC) is required from the Scottish Ministers through Historic Scotland for any development affecting a scheduled ancient monument, and notification to Historic Scotland of any planning application affecting the site of such a monument is required under article 15 (1) of the Town and Country Planning (General Development Procedure) (Scotland) Order 1992.

2.2.2 Under the 1979 Act the Scottish Ministers are required to compile and maintain a Schedule of monuments considered to be of national importance. The statutory consent of the Scottish Ministers is required before any works are carried out which would have the effect of demolishing, destroying, damaging, removing, repairing, altering, adding to, flooding or covering up a Scheduled Ancient Monument (SAM).

2.2.3 The Western Isles Structure Plan (2003) states that

“The Comhairle will support proposals that seek to protect, enhance and interpret Scheduled Ancient Monuments.... Development proposals affecting nationally important remains (whether scheduled or not) and their settings will normally not be permitted. Where development is likely to affect an archaeological monument, site or possible remains:

- i) Early discussion with development control officers and the regional archaeologist is encouraged;
- ii) the developer will normally be required to allow the regional archaeologist (or nominee) access to the development site at any time during the course of

development to make such recordings as may be reasonably required;

iii) The developer may be required to arrange or fund an archaeological evaluation prior to the determination of planning applications in areas of potential importance; and

iv) The developer may be required to arrange or fund an archaeological excavation, and/or recording of the affected monument or site where in situ preservation is not possible.”

Policy RM18 Scheduled Ancient Monuments and other Archaeological Sites

2.2.4 The Western Isles Local Plan (2007) states that

“The Comhairle will only permit development adversely affecting Scheduled Ancient Monuments and nationally important sites in exceptional circumstances and where there is an overriding public interest.”

Policy LP/RM2 Archaeology and Archaeologically Sensitive Areas

2.2.4 A formal process of application to conduct such works known as Scheduled Monument Consent (SMC) is administered on behalf of the Scottish Ministers by Historic Scotland. Effects of proposed development works upon the setting of a SAM form an important consideration in the granting or refusal of consent to conduct development works. Further information on development control procedures relating to SAMS is provided in NPPG 5 and PAN 42.

2.2.5 There are currently approximately 7500 Scheduled Monuments in Scotland. Approximately 200 of these are located in the Western Isles. In addition, it is estimated that there may be more than twice this number which meet the necessary requirements for designation.

2.3 Listed Buildings

2.3.1 Under the 1997 Act, the Scottish Ministers are required to compile a list of buildings of special architectural or historic interest. These buildings are classified into Categories A, B and C (S), in decreasing order of importance. This statutory protection covers not only the building itself, but also other features within its curtilage (e.g. stables and garden walls).

2.3.2 There is a presumption against development that will adversely affect the character of a listed building or its setting, and planning authorities are required to have a special regard for the desirability of preserving listed buildings and their settings. Further policy information on listed buildings is published in NPPG 18. Additional guidance is published in the Memorandum of Guidance on Listed Buildings and Conservation Areas 1998 (hereafter ‘memorandum’; Historic Scotland 1998).

2.3.3 The Western Isles Structure Plan (2003) states that

“The Comhairle will seek to conserve Listed Buildings. It will support sympathetic conversions to secure their future use and will only permit demolition in exceptional circumstances.”

Policy RM16 Listed Buildings

2.3.4 The Western Isles Local Plan (2007) states that

“In assessing development proposals affecting conservation areas and listed buildings or their settings, account will be taken of Structure Plan.....Where possible, the retention and re-use of buildings of local character will be sought. In assessing the merits of retention regard will be made to the buildings’ historic value, condition and contribution to its local setting.”

LP/RM1 Built Heritage Conservation

2.4 Other archaeological sites and monuments

2.3.1 Archaeological sites and monuments without statutory protection are curated by the local planning authority. NPPG 5 and PAN 42 provide national planning policy guidance and advice on the treatment of this resource. PAN 42 indicates that the principle that should underlie all planning decision-making is preservation of cultural resources, in situ where possible, and by record if destruction cannot be avoided. It is recognized in that document that preservation may not always be possible, and where damage is unavoidable various mitigation measures may be proposed.

2.3.2 The Western Isles Structure Plan (2003) states that

“The Comhairle will support proposals that seek to protect, enhance and interpret archaeological sites. Development proposals affecting nationally important remains (whether scheduled or not) and their settings will normally not be permitted. Where development is likely to affect an archaeological monument, site or possible remains:

i) Early discussion with development control officers and the regional archaeologist is encouraged;

ii) The developer will normally be required to allow the regional archaeologist (or nominee) access to the development site at any time during the course of development to make such recordings as may be reasonably required;

iii) The developer may be required to arrange or fund an archaeological evaluation prior to the determination of planning applications in areas of potential importance; and

iv) The developer may be required to arrange or fund an archaeological excavation, and/or recording of the affected monument or site where in situ preservation is not possible.”

Policy RM18 Scheduled Ancient Monuments and other Archaeological Sites

2.1.1 The Western Isles Local Plan (2007) states that

“...For development affecting regional or locally important sites, the relative importance of the archaeological features in question and their potential use for amenity, tourism and education purposes, will be weighed against other

factors, including the benefits of the proposed development.....”

Policy LP/RM2 Archaeology and Archaeologically Sensitive Areas.

3 Methodology

3.1 General

- 3.1.1 This desk-based assessment has been designed to identify and assess the archaeological sites and monuments present on, or close to, the development area in order to assess the likely impact of the proposed development and to propose mitigation measures in relation to the replacement water mains, the two proposed route options for the discharge pipe, and the area surrounding the pump house at Bagh Carragraich.
- 3.1.2 In undertaking this desk-based assessment, data was sought for all archaeological sites and monuments within a 100m wide linear corridor either side of the proposed pipeline routes and development area. Each archaeological site referred to in the text is listed in the gazetteer in Appendix A. Site numbers allocated to sites and monuments and mentioned within the text is in bold type within parentheses.
- 3.1.3 Each archaeological site referred to in the text is plotted on the location maps (Figures 1 and 2) at the end of this report, using the assigned site numbers.

3.2 Aims and Objectives

- 3.2.1 The main objective of this study is to identify the archaeological resource of the study area. The evidence presented and the conclusions reached, aim to offer a comprehensive basis for further decisions regarding the future of the sites and the formulation of a mitigation strategy, should this be required.

3.3 Desk Based Study

- 3.3.1 Data gathering and assessment was undertaken in accordance with the Institute of Field Archaeologists Standard and Guidance on Archaeological Desk-Based Assessments (1999). Other policy documents taken into account included the Scottish Office documents NPPG 5, NPPG 18 and PAN 42, the Western Isles Structure Plan (2007) and the Western Isles Local Plan.
- 3.3.2 Information on sites both with and without statutory designation that lie within the Proposed Development Area was sought from the following sources:
- *Information on SAMs and Listed Buildings was obtained from Historic Scotland;*
 - *Information on non-designated sites was sought from the National Monuments Record of Scotland (NMRS).*

This data was obtained from the Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS) databases, 'PASTMAP' and 'CANMORE' (<http://www.rcahms.gov.uk/search.html> ;)

- *Information from the local Sites and Monuments Record (SMR) was obtained from Mary Macleod at the Western Isles Archaeological Service (**Comhairle nan Eilean Siar** ;)*

- *Historical maps were obtained from the collections held in the National Library of Scotland and from the 1:10,000 collection held at the RCAHMS;*
- *Information from published archaeological and historic literature through both printed text and multimedia sites, e.g. SCRAN (www.scran.ac.uk.)*

3.4 Walk over Survey

3.4.1 A site visit was made to the Proposed Development Area on the 19th of February 2008 in order to assess the presence, absence and condition of any archaeological sites identified during the desk-based study and to locate and record any previously unknown sites.

3.5 Assessment of Cultural Heritage Importance

3.5.1 Sites were assigned a level of importance on a scale of 'Less than Local' to 'International', as shown in Table 1. This was established on the basis of statutory designation and/or assessed cultural heritage importance.

Table 1: Cultural Heritage Importance

Importance	Site Type
International	World Heritage Site
National	Scheduled Ancient Monuments (SAMs) Category A Listed Buildings Designed Landscapes Some undesignated sites assessed as being of National importance using the methodology given in paragraph 3
Regional	Category B Listed Buildings Conservation Areas Some undesignated sites assessed as being of Regional importance using the methodology given in paragraph 3
Local	Category C(s) Listed Buildings Some undesignated sites assessed as being of Local importance using the methodology given in paragraph 3
Less than Local	Sites either already badly destroyed or whose historic value is too slight for inclusion in a higher class.

3.5.2 World Heritage Sites are afforded international protection under the UNESCO World Heritage Convention, with Scheduled Ancient Monuments (SAMs) nationally protected under the 'Ancient Monuments and Archaeological Areas Act 1979'. The 'Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997' provides for the designation of Category A, B and C(s) Listed Buildings which are considered to be of national, regional and local importance respectively.

3.5.3 Conservation Areas are assessed as being of regional importance and following discussion with Historic Scotland on previous projects; Designated Landscapes area assessed as being of national importance.

3.5.4 Many sites of cultural heritage importance are not currently afforded any statutory protection through designation. For the purposes of assessment, these undesignated sites were assigned a level of importance using

professional judgement supported by review of the following guidance:

- *Criteria used in Scottish Historic Environment Policy 2 for the designation of SAMs; and*
- *Non-statutory criteria used in their designation of Listed Building categories (Memorandum of Guidance on Listed Buildings and Conservation Areas, Historic Scotland 1998).*

3.6 Assessment of potential impacts

3.6.1 Direct impacts from the proposed development include potential damage to any unknown archaeological features that may be present along the pipeline corridor. The main possible impacts from construction works are considered to be as follows:

- *direct loss of site, or damage to part of the site;*
- *indirect damage through burial, compression, alteration of drainage, vibration or subsidence;*
- *severance of linked features.*

3.6.3 Where sites or monuments identified are directly or indirectly affected by the proposed development, a suitable mitigation has been proposed.

3.7 Predicted Impacts (direct)

3.7.1 The significance of predicted direct impacts (i.e. physical disturbance) was determined taking into account the importance of the archaeological resource affected (Table 1), and the magnitude of the impact.

3.7.2 Magnitude

The criteria used to outline the magnitude of impact are outlined in Table 2 below:

Table 2: Magnitude of Direct Impacts on Cultural Heritage

Magnitude	Criteria
Very Severe	Disturbance to over 75% of the known or estimated area of the site
Severe	Disturbance to between 50% and 75% of the known or estimated area of the site
Medium	Disturbance to between 25% and 50% of the known or estimated area of the site
Negligible	Disturbance of up to 25% of the known or estimated area of the site

3.7.3 Significance

The significance of direct impacts was then determined in accordance with matrix of importance and magnitude, as shown in Table 3.

Table 3: Significance of Direct Impacts on Cultural Heritage

Magnitude of Impact \ Importance	Very Severe	Severe	Medium	Negligible
	National	Substantial	Substantial	Moderate
Regional	Substantial	Moderate	Slight	Negligible
Local	Moderate	Slight	Slight	Negligible

3.7.4 The assessment of impact significance of the potential impact was then adjusted as appropriate to take into account the relative importance of the specific parts of the site that would be affected. For instance, an impact which is of 'very severe' magnitude in terms of the area of the site affected may nevertheless only affect peripheral features, while a 'medium' magnitude impact may affect the core of a site. Other qualitative factors taken into account include potential severance of linked features, nature of the severed linkage, the amount of stratigraphy which would be disrupted and the overall effect on the historic integrity of the site.

4 Archaeological and Historical Background

4.1 General

4.1.1 The earliest Monuments in Scotland comprise very slight traces of temporary settlements left behind by hunters and gatherers, while some of the most recent comprise the remains of recently deserted farmhouses or WWII defensive structures.

4.1.2 The four main categories of archaeological remains that may be encountered are:

- **upstanding remains:** built structures such as buildings, field boundaries, and features such as standing stones and stone circles;
- **earthworks:** soil-covered remains that can be seen as surface undulations at ground level. These can include ruined buildings or their foundations, banks, mounds, ramparts, ditches, gullies and hollows;
- **buried features:** soil-covered remains which have no visible trace at ground level (possibly revealed by aerial photography); and
- **artefact scatters:** scatters of potsherds, flint, tools, metal objects, animal bones, worked stone, mortar or human remains.

4.1.3 Palaeoenvironmental evidence may also be found in association with archaeological remains. Specialised analysis of palaeoenvironmental data can provide useful dating evidence and an indication of past land-use.

4.2 Prehistoric Period (10,000BC – AD 43)

4.2.1 Human occupation of Scotland began with the arrival of Mesolithic hunter-gatherer groups around 7,000 BC.

4.2.2 With the introduction of agriculture in the Neolithic period, around 3500 BC, communities became more settled and land was cleared for farming. Peat accumulation on the Western Isles has obscured most Neolithic settlement sites, so the majority of evidence for the Neolithic occupation of the island comes from ritual monuments and communal burial mounds. Stone circles and standing stones began to be erected by about 2500 BC, towards the end of the Neolithic period, possibly for ritual activities associated with the lunar, stellar and solar cycles.

4.2.3 The archaeological landscape of the subsequent Bronze Age (c. 2,000 BC to 700 BC) continues to be dominated by ritual and burial monuments. The period is characterised by a change from communal to individual burial, often with grave goods, including new styles of pottery and bronze artefacts. Although a number of Bronze Age settlements have been discovered on Lewis, the general picture is somewhat limited. There is clear indication of Bronze Age activity with the discovery of the Early Bronze Age farm at Callanish, (near to the stone circle). This site revealed the remains of a preserved field systems in the form of distinctive rig and furrow and the remains of stone field walls. From this discovery it became evident that the peat blanket within the interior of the island has potentially buried a wide

range of prehistoric sites and structures.

4.2.4 Another feature of this period is the emergence of roundhouses and brochs such as the Dun at Loch An Duin (NG 2247 9659). Although they started to emerge at the end of the Bronze Age, these structures are seen to be great symbols of the Atlantic Scottish Iron Age.

4.2.5 Another archaeological site synonymous with this period and continuing in use till the Post medieval period are the appearance of artificial islands. These 'islands' were purposely created to act as platforms to allow the construction of dwellings in the form of crannogs or defensive duns. Most are circular structures that appear to have been built as individual homes to accommodate the extended family and even their livestock, attached to the shore by a timber walkway or causeway. Within the Outer Hebrides many such sites have been noted for example the site of Dun Loch an Duna at Bragar (NGR: NB 285 473).

4.3 The Roman Period (AD43 – 410)

4.3.1 There is no evidence of Roman occupation in this area however reference to the Hebrides by Pomponius Mela and Pliny the Elder indicate some level of contact between the Hebrides and the Roman world.

4.4 The Medieval Period (AD410 – 1700)

4.4.1 Like many areas of Scotland, the Western Isles were subject to settlement by Norse invaders/settlers from the late 8th century onwards. This occupation by the Norse is primarily evident though toponymy (place-name evidence) which maintain a distinct combination of Scandinavian and Celtic origin, as well as historical and archaeological evidence. In the 9th century Norsemen raided this area taking it completely under Norse rule under Magnus III of Norway. The Norse continued to rule the Western Isles until 1266, when the kingdom was ceded to Alexander III of Scotland after King Haakon was defeated at the Battle of Largs in 1263.

4.4.2 The Medieval period in the Western Isles was a time of social and economic change. Excavations on several islands reveal a society involved in trade, industry and foreign relations. There is evidence of craftwork and trade networks with Europe.

4.4.3 This period was a time of isolation from the rest of Scotland, with the Western Isles being more influenced by Norse culture.

4.5 The Post Medieval Period (AD1700 – 1900)

4.5.1 The 18th and 19th centuries marked a period of agricultural improvement throughout Scotland. Landowners found the traditional crofting economy to be unprofitable, and there was a growing tendency towards 'improvement' of agriculture. This took various forms, including the establishment of larger farms and the spread of sheep farming. In areas such as the Western Isles, farmers were pushed towards the less fertile coastal areas.

4.5.2 As is the case throughout many areas in Scotland, cultivation earthworks ('rig and furrow' and lazy-beds) are visible in many areas not considered suitable for arable farming today; such cultivation of poor land is a feature of

subsistence farming and overpopulation.

4.6 The 20th Century

4.6.1 The 20th century saw the decline of many of the traditional industries in the Western Isles, although agriculture and fisheries both farmed and harvested remain important for the islands.

4.7 Previous Work

4.7.1 Previous work has been carried out in the area in relation to a proposed water main extending from the town of Tarbert to the island of Scalpay (Shaw, 2007, unpublished).

5 Results

5.1 Sites within the study area

- 5.1.1 A total of ten sites were identified within the study area by the desk-based assessment and walk over survey. This is presented in Appendix A and illustrated in Figures 1 and 2.
- 5.1.2 An assessment of importance following the methodology described in Section 3, above was carried out and each site has been assigned an archaeological significance. Detailed site descriptions are provided in Appendix A.
- 5.1.3 There are no Scheduled Ancient Monuments within the study area.
- 5.1.4 There are no listed buildings within 1km of the study area.
- 5.1.5 There are ten non-designated sites within the study area.
- 5.1.6 There are no designed landscapes present within or close to the study area. No Conservation Areas are present within or surrounding the study area.
- 5.1.7 The walkover survey of the proposed development did not uncover any new sites. All sites were visited and the results are included in Appendix A.

5.2 Sites within the Proposed Development Area.

- 5.2.1 No Scheduled Ancient Monuments or Listed Buildings are directly affected by either of the proposed gravity main routes.

Replacement Mains

- 5.2.2 The proposed route of the replacement mains extends from Loch Braigh na h-barich south, via the existing filters and tank down the hillside to the current pump house on the northern side of the main road. The terrain in this area is extremely steep and very rough with numerous outcrops of bedrock. One structure (9) was detected close to this route at NG1962099010. This was to be a reservoir associated with the adjacent service works. A cairn (10) was also noted from maps, sitting approximately 70m to the west of the proposed route at NG1951999067. This was not recorded during field survey.

Pump House Development

- 5.2.3 The proposed area surrounding the pump house also comprises rough terrain with outcrops of bedrock. A small area of cultivation was noted within this area at NG 19664 98682 (8). This area has two sections of rig and furrow, the northern section was oriented N-S and the southern section E-W. Field survey noted that a small area of this is visible from vegetation change in the eastern part of the area (Plate 6.) However, much of the area is covered in upcast, re-deposited soil and as such, only small patches defined as colour changes within high sedges and grass was identifiable within the proposed pump-house development area.

Discharge Pipes

5.2.4 Within the study area of route 1, the proposed line of the discharge pipe passes close to the remains of the farmstead at site 2 and particularly close to site 3. The directionally drilled section of the gravity main will also pass close to site 5, the boat naust. It is anticipated that the potential of encountering surviving archaeological remains within this area is high. Alteration of the route at this location is restricted by the presence of houses on the western side of the route. A watching brief is therefore recommended if this option is chosen.

5.2.5 Route 2 falls close to the ruinous farmstead and structure (4 & 2). It is considered that the potential for encountering surviving archaeological remains within this area is high. There is the potential for this route to be moved by a few metres to the south-east as there are no physical obstruction, this would reduce the potential for disturbing buried archaeological remains.

5.3 Desk based assessment

5.3.1 Ten sites were identified from desk-based assessment within the 100m study corridor. One of these, (1) had previously been recorded within the NMRS, six sites (2-6 and 10) were identified from an assessment of Ordnance Survey maps. Three sites (7,8 and 9) were identified from aerial images.

5.4 Field survey

5.4.1 The walkover survey confirmed the presence of nine sites (1-9), noted during the desk-based assessment. It did not locate any additional sites within the study corridor.

5.5 Identified sites

5.5.1 There are no Scheduled Monuments, Listed Buildings or designed landscapes present within or close to the study area. No Conservation Areas are present within or surrounding the study area.

5.5.2 Ten non-designated sites in total lie within the 100m study corridor. A list of those sites identified and details of the findings are presented in Appendix A and illustrated in Figures 1 and 2.

5.6 Site types and chronology

Agriculture and Subsistence

5.6.1 All of the sites within the study area are directly or indirectly related to agriculture or settlement.

5.6.2 Within the study area, there is one (1) township and two further sites (3-4) classed as structures, or farmsteads.

5.6.3 Evidence of agricultural land use is clearly demonstrated by the presence of an enclosure (6) and two areas of rig and furrow (7 and 8).

5.6.4 Exploitation of maritime resources was also identified, by the presence of a boat naust (5).

Industrial

5.6.5 Evidence of prior modern development was noted by the presence of a reservoir (9).

Chronology - Early medieval or later

5.6.5 The five sites identified on the 1st edition Ordnance Survey map (Hebrides, Harris, Inverness-shire, 1882, 1:10560, sheet XIV) (1-4 & 6) and the associated areas of cultivation (7 and 8) are associated with pre-enclosure land-use. These sites may have been continuously occupied from the early medieval period to the early 20th century.

20th Century

5.6.6 A reservoir (9) identified from aerial photographs is believed to be 20th century in date, probably having been built at the time of laying previous service pipework in the area.

Unknown

5.6.6 The boat naust (5) is not noted on the early editions of the Ordnance Survey map and its period of construction is unknown, it may range from the post medieval period to the 20th century.

6 Assessment of Importance and Sensitivity

6.1 General

6.1.1 An assessment of importance following the methodology described in Section 3, above was assigned to each site in order to assess the archaeological significance of the known sites that may be affected by the proposed development and all sites are shown on Figure 1. Detailed site descriptions are provided in Appendix A.

6.2 Importance of known sites within the development corridor

6.2.1 No site of National importance occurs within the study area.

6.2.2 One site of Regional importance (**1**) occurs within the study area.

6.2.3 Six sites of Local importance (**2-5, 7** and **8**) occur within the study area.

6.2.4 Two sites of Less than Local importance (**6** and **9**) occur within the study area.

6.2.5 One site of Unknown importance (**10**) occurs within the study area.

6.3 Impact magnitude and significance on known sites

6.3.1 An assessment of the potential impact magnitude and the significance upon each known site has been undertaken using the assessment matrix outlined in Tables 2 and 3 in Chapter 3, above.

6.3.2 With regards to the discharge pipes, route 1, four known sites (**1-3** and **5**) lie within the proposed development corridor and may potentially be directly impacted upon by the proposed development. With route 2, three known sites (**1-2 & 4**) lie within the proposed development and may potentially be directly impacted upon by the proposed development.

6.3.3 It is assessed that there will be negligible impacts on eight sites (**1, 2, 4-7, 9** and **10**), as it is assumed in this assessment that any identified sites will be avoided during groundbreaking works. Two sites to the south end of the outlined route (**3** and **8**), may potentially be directly impacted upon by the laying of the new proposed pipes. The significance of these impacts on all sites are summarised in Table 4, below.

Table 4: Summary of identified sites of Cultural Heritage interest.

Site No	Site type	Importance	Magnitude	Significance
1	Carragraich; Township	Regional	Negligible	Negligible
2	Carragraich; Farmstead and enclosure	Local	Negligible	Negligible
3	Abhainn Charragraich; Structure	Local	Medium	Slight

4	Carragraich; Structure	Local	Negligible	Negligible
5	Carragreirch Boat Naust	Local	Negligible	Negligible
6	Carragraich; enclosure	Less than Local	Negligible	Negligible
7	Bagh Charragraich; cultivation area	Local	Negligible	Negligible
8	Charragraich	Local	Medium	Slight
9	Reservoir	Less than Local	Negligible	Negligible
10	Cairn	Unknown	Negligible	Negligible

6.4 Results

6.4.1 The results derived from the assessment of impacts on known sites within the proposed development corridor using the Matrix outlined in Table 3 are as follows;

- The proposed development will have negligible impact on eight sites within the study area (**1,2, 4, 5,9 and 10**).
- The proposed development will have slight impact on two sites within the study area (**3 and 8**).
- Due to the nature of the works, it is perceived that any groundbreaking will avoid known sites identified within this report and it is therefore considered that the overall impact on the sites situated within the proposed development corridor will be negligible.

6.5 Unknown archaeological potential within the proposed development corridor

6.5.1 The presence of archaeological sites close to the development area suggests that there is the potential for buried archaeological remains to occur within this area. Therefore there is potential for unknown and buried archaeology of prehistoric date to survive within the development corridor.

7 Summary and Conclusion

7.1 General

- 7.1.1 The assessment has to date identified a total of eight sites surrounding the proposed replacement mains, development area of the pump house and route options for the discharge pipes. All are Post Medieval in date and it is suggested that archaeological monitoring is required in relation to route option 1 for the discharge pipe as it passes close to the remains of the structures at site **2** and **3**.

7.2 Discussions and Recommendations

Archaeological potential of the study area.

- 7.2.1 The area through which the development passes is exposed coastal machair which has been subject to partial agricultural improvement. The second edition Ordnance Survey maps (Hebrides, Harris, Inverness-shire, 1882, 1:10560, sheet XIV) show that the study area was occupied during the Post Medieval period. It can be seen that the area was occupied and worked by a small pre-clearance clachan settlement (**1**) composed of fifteen roofed, one partially roofed, five unroofed buildings and six enclosures.
- 7.2.2 The assessment has to date identified a total of eight non-designated sites along and close to the route options of the proposed development at Charragraich. A few of these sites are situated close to the proposed route options of the discharge pipeline.
- 7.2.3 The presence of numerous archaeological sites close to the study areas underlines the potential for archaeological remains to occur ranging from the prehistoric period to the post medieval period. The archaeological potential of the study area is therefore high, specifically the area extending from the main road down to the bay.

7.3 Archaeological Proposals

- 7.3.1 It is recommended that archaeological monitoring is required if route option 1 is chosen, as there is extensive indication for human activity within the area concerned and the potential for impacting upon undetected archaeology is high.
- 7.3.2 If route option 2 is chosen it is suggested that the route be moved by a few metres to the south-east, moving it away from site **2-3** and thereby reducing the potential for impacting upon undetected archaeology within the study area.
- 7.3.3 The landscape through which the replacement mains will pass is particularly steep and dominated by rocky outcrops. Despite the presence of an archaeological site within 100m of this area (**10**), it is thought that there is limited possibility of archaeological remains to occur within the route of development, due to the nature of the surrounding terrain. It is also thought

that despite being unable to determine the current state and importance of the cairn (10) through lack of identification during the field survey, any impact on this site will be limited due to its distance from the development, the topography of the area and the nature of the proposed works.

- 7.3.4 Surrounding the pump house there are traces of rig and furrow (8) set within the rocky terrain and this may require archaeological monitoring if developed.
- 7.3.5 Any final decision on the scale and extent of preconstruction mitigation or subsequent monitoring will be decided by Mary Macleod, Archaeological advisor to Comhairle nan Eilean Siar.

7.4 Acknowledgements

Jacobs wish to thank the NMRS, Kevin Maclaren of RCAHMS, Mary MacLeod of the Western Isles Council Julie Tuck of Scottish water Solutions and Historic Scotland for their assistance in data gathering for this assessment.

8 Bibliography and References

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Cartographic References

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|---------|--|---|
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Appendix A - Gazetteer

Site No: 1
Name: Carragraich
Type of remains: Township
NGR: NG195 986
NMRS No: NG 19 NE 8
SAM No: N/A
Local SMR No: 2464 - MWE122347
Status/Source: Regional: NMRS/SMR/Cartographic

Description: The NMRS describes the site as a township comprising of fifteen roofed, one partially roofed, five unroofed buildings, six enclosures and some field walls depicted on the 2nd edition of the OS 6-inch map (Inverness-shire, Island of Harris 1882, sheet xiv). By the current edition of the Ordnance Survey map (1:10 000, 1973) the site has reduced to eight roofed, one partially roofed, twelve unroofed buildings, seven enclosures and some field walls.
 During a walkover survey carried out in February 2008, it was noted that the remains of the Pre-clearance clachan is in various states of repair with the main settlement (site 2) in a ruinous but stable condition.

Site No: 2
Name: Carragraich
Type of remains: Farmstead; enclosure
NGR: NG 19629 98564
NMRS No: N/A
SAM No: N/A
Local SMR No: 6546-MWE142007
Status/Source: Local/Cartographic/Field Survey

Description: Part of site 1.
 Noted on the 2nd edition Ordnance Survey map (Hebrides, Harris, Inverness-shire, 1882, 1:10560, sheet XIV) as two roofed rectilinear buildings, one small unroofed rectilinear building and an associated rectilinear enclosure. By the time of the current Ordnance Survey map (1:10000, 1973) two roofless structure and the partial remains of an enclosure are indicated.
 During a walkover survey carried out in February 2008, it was noted that the ruinous remains of the farmstead are in a stable condition with grass covered wall heads, standing to a height of about 1m and 1m thick. The enclosure is also in a stable condition standing about 4-5 courses high.

Site No: 3
Name: Abhainn Charragraich
Type of remains: Structure
NGR: NG 19590 98538
NMRS No: N/A
SAM No: N/A
Local SMR No: N/A
Status/Source: Local: Cartographic

Description: Part of site 1.
 Noted on the 2nd edition Ordnance Survey map (Hebrides, Harris,

Inverness-shire, 1882, 1:10560, sheet XIV) as a small roofed rectilinear building on the western bank of Abhainn Charragraich, orientated N-S. The current Ordnance Survey map (1:10000, 1973) shows a small roofless structure. During a walkover survey carried out in February 2008, it was noted that the remains of this structure are in very poor condition.

Site No: 4
Name: Carragraich
Type of remains: Structure
NGR: NG 19601 98504
NMRS No: N/A
SAM No: N/A
Local SMR No: N/A
Status/Source: Local: Cartographic

Description: Part of site 1.
Noted on the 2nd edition Ordnance Survey map (Hebrides, Harris, Inverness-shire, 1882, 1:10560, sheet XIV) as part of a cluster of three structures, two roofed and one unroofed. By the current Ordnance Survey map (1:10000, 1973) the site is comprised one roofless structure, oriented E-W.

Site No: 5
Name: Carragreich Boat Naust
Type of remains: Boat Naust
NGR: NG 19517 98505
NMRS No: N/A
SAM No: N/A
Local SMR No: N/A
Status/Source: Local: Cartographic

Description: Part of site 1.
Not noted on the 2nd edition Ordnance Survey map (Hebrides, Harris, Inverness-shire, 1882, 1:10560, sheet XIV) or the current Ordnance Survey map (1:10000, 1973). A walkover survey carried out in February 2008 noted that the naust is formed by a clearing of the larger beach boulders to form an cleared area of the inter tidal zone, allowing boats to be hauled clear of the water.

Site No: 6
Name: Carragreich
Type of remains: Enclosure
NGR: NG 19609 98447
NMRS No: N/A
SAM No: N/A
Local SMR No: N/A
Status/Source: Less than Local: Cartographic

Description: Part of site 1.
Noted on the 2nd edition Ordnance Survey map (Hebrides, Harris, Inverness-shire, 1882, 1:10560, sheet XIV), as a sub-oval enclosure. The current Ordnance Survey map (1:10000, 1973) shows a semi-rectangular enclosure. Walkover survey carried out in February 2008 noted that the majority of the enclosure had been destroyed and the only other surviving remains were of a slight raised platform and a few stones.

Site No: 7
Name: Bagh Charragraich
Type of remains: Cultivation
NGR: NG1957198437
NMRS No: N/A
SAM No: N/A
Local SMR No: N/A
Status/Source: Local: Field survey

Description: Part of site 1.
An area of rig and furrow was noted to the south of site during a walkover survey carried out in February 2008.

Site No: 8
Name: N/A
Type of remains: Cultivation
NGR: NG1967398668
NMRS No: N/A
SAM No: N/A
Local SMR No: N/A
Status/Source: Local: Field survey

Description: Patches of rig and furrow were noted at this location on aerial images. A walkover survey carried out in February 2008 noted that this survived as patchy remains defined by rushes and vegetation change.

Site No: 9
Name: N/A
Type of remains: Reservoir
NGR: NG1967398668
NMRS No: N/A
SAM No: N/A
Local SMR No: N/A
Status/Source: Less than Local: Aerial Photographs

Description: An reservoir was noted on aerial images and is recorded on the modern Ordnance Survey map. This is thought to be associated to the adjacent waterworks and is thought to be 20th century in date.

Site No: 10
Name: N/A
Type of remains: Cairn
NGR: NG1967398668
NMRS No: N/A
SAM No: N/A
Local SMR No: N/A
Status/Source: Unknown: Cartographic

Description: A cairn is noted at this location on modern Ordnance Survey maps. This was not noted during the walkover survey carried out in February 2008



Appendix B – Photographic Plates



Plate 1: General view of terrain, from south



Plate 2: Over view of site 2, from north



Plate 3: Site 5, Boat naust from north-east



Plate 4: Site 7, area of cultivation



Plate 5: Site 6, remains of enclosure, from south



Plate 6: Site 8, facing to NE, showing remains of identified Rig and Furrow in the RH corner (marked on photo)

Appendix C – Discovery and Excavation in Scotland

LOCAL AUTHORITY:	Comhairle nan Eilean Siar
PROJECT TITLE/SITE NAME:	Tarbert Gravity Mains
PARISH:	Harris
NAME OF CONTRIBUTORS:	Claire Shaw and Kirsten McKee
NAME OF ORGANISATION:	Jacobs UK
TYPE(S) OF PROJECT:	Archaeological Desk-based Assessment and Walk over Survey
NMRS NO(S):	NG 19 NE 8
SITE/MONUMENT TYPE(S):	Post Medieval
SIGNIFICANT FINDS:	N/A
NGR	NGR: NG 196 986 to NGR: NG 195 985 and NGR: NG 196 985 to NGR: NG 196 984.
START DATE	February 2008
END DATE	March 2008
PREVIOUS WORK (incl. DES ref.)	DBA for proposed water main renewal Tarbert – Scalpay
PROPOSED FUTURE WORK:	Watching Brief
MAIN (NARRATIVE) DESCRIPTION:	The assessment has to date identified a total of ten sites within the proposed routes of the gravity main. The presence of numerous archaeological sites close to the study areas indicates that the archaeological potential of the study area is high
PROJECT CODE:	B0570000/30957
SPONSOR OR FUNDING BODY:	Scottish Water Solutions
ADDRESS OF MAIN CONTRIBUTOR:	Jacobs UK, 95 Bothwell Street, Glasgow, G2 7HX
E MAIL:	Claire.Shaw@Jacobs.com
ARCHIVE LOCATION	Report to Comhairle nan Eilean Siar and archive to National Monuments Record of Scotland.