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THE STATES OF DELIBERATION
of the
ISLAND OF GUERNSEY

COMMITTEE *FOR THE* ENVIRONMENT & INFRASTRUCTURE

FUTURE INERT WASTE DISPOSAL AND WATER RESOURCE MANAGEMENT INCLUDING THE FUTURE STRATEGIC USE OF LES VARDES QUARRY

The States are asked to decide:

Whether, after consideration of the Policy Letter entitled 'Future Inert Waste Disposal and Water Resource Management Including the Future Strategic Use of Les Vardes Quarry' dated 24th March 2025 they are of the opinion:

1. To approve the Black Rock Land Reclamation project as the preferred way forward for the next inert waste disposal site, subject to obtaining the necessary permissions, noting the intention of the States is that stockpiling should continue in the interim until such time as the next inert waste disposal site is available, and to agree that Les Vardes Quarry shall be the preferred option for freshwater storage once quarrying activities there cease.

The above Propositions have been submitted to His Majesty's Procureur for advice on any legal or constitutional implications in accordance with Rule 4(1)(c) of the Rules of Procedure of the States of Deliberation and their Committees.

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The Presiding Officer
States of Guernsey
Royal Court House
St Peter Port

24th March, 2025

Dear Sir

1 Executive Summary

1.1 Guernsey's Fiscal Policy Panel confirmed in March 2025 that the States of Guernsey needs to take a longer-term view of infrastructure with more focus on its benefits to the community[1].

1.2 This independent analysis commissioned by the Policy & Resources Committee confirmed that Guernsey had a history of underinvesting in its infrastructure and has struggled to maintain a smooth progression of projects through its capital programme. This is constraining economic growth.

1.3 Investment in infrastructure is necessary to support productivity and growth and the Panel recommended public sector spending of 3% of GDP on infrastructure over the medium- to long-term.

1.4 This policy letter sets out a recommended comprehensive and evidence-based strategy and way forward to the States to address the future requirements for inert waste disposal and water storage, and the strategic role Les Vardes Quarry ("LVQ") may play in achieving those requirements, following an appraisal of the technically feasible options.

[1] Fiscal Policy Panel - States of Guernsey

1.5 Given the clear advice from the Fiscal Policy Panel, the priority is to ensure the Island develops infrastructure which delivers a route for inert waste disposal and a water supply that meets the current and future needs of the people of Guernsey, its economy, and the environment.

1.6 This matter is brought to the States by the Committee *for the* Environment & Infrastructure ("the Committee") as it has responsibility for waste and water policy. In bringing these proposals to the States, the Committee has consulted closely with the States' Trading Supervisory Board which acts as the Waste Disposal Authority and also has responsibility for Guernsey Water.

1.7 LVQ is a privately owned quarry operated by Ronez Limited which remains in active use. Under current States policy, the site is safeguarded for water storage once stone extraction ceases. This does not guarantee that it will be used as a reservoir, but any form of development that may compromise its future use for this purpose is not currently permitted. However, there is provision within the policy for the States to prioritise its use for other strategically essential development, besides water storage, should that case be made.

1.8 In appraising the options for LVQ, the Committee has considered future water storage and inert waste disposal in the context of States policy and its short, medium, and long-term strategy. It has concluded that the combination of developing LVQ for water and a new land reclamation project in an area known as Black Rock will best meet the Island's future requirements.

1.9 Guernsey's Water Resources and Drought Management Plan 2025-2080 confirms the need to plan for a new water resource which will provide resilience to accommodate population growth, potential climate change impacts and water quality risks in the future. Guernsey Water has drawn up adaptive plans to meet the Island's future requirements which identify either a new reservoir using LVQ or a new desalination plant, together with demand management and catchment management measures, as the options which would provide the necessary water supply resilience to meet the predicted future demand. Appendix 1 summarises the plan.

1.10 In the event of a severe drought, the Island's current water storage reservoirs would be unable to meet demand, with an estimated supply deficit of nearly 3 million litres per day. Such an event would require strict water rationing measures, with potentially significant social, economic and health consequences. That is the situation today, before allowing for anticipated population increases and potential changes in future rainfall patterns. Demand management measures, such as compulsory metering, and supply improvements, such as PFAS treatment, will go some way to reducing the deficit, but it can only be fully addressed by investment in a major new water

resource, the delivery of which is a multi-year project.

1.11 Inert waste is material produced from excavation, construction, and demolition activities, and mainly comprises rubble, hard-core, concrete, bricks, tiles and other ceramics, clean soil, and mixtures of these items. More than 100,000 tonnes of inert waste are generated each year. A substantial proportion of this is recycled or reused, but this does not negate the need for a disposal site. Failure to provide an inert waste disposal solution would negatively impact the Island's economy through the limitations it would place on the construction industry.

1.12 The site for the future disposal of inert waste was previously debated by the States in 2017 and 2020. On both occasions, Longue Hougue South ("LHS"), was recommended to the States as the preferred way forward following a comprehensive and detailed options appraisal. Those appraisals had considered but discounted LVQ as the next inert waste disposal site as it was not considered viable within the timescales required.

1.13 The 2020 Resolutions directed the Development & Planning Authority to prepare proposals for a Local Planning Brief for a new residual inert waste facility at LHS[2].

1.14 In 2021, Ronez advised the States that an area of LVQ could be made available from January 2025 for inert waste disposal, alongside the quarry being operated by Ronez. This was a material alteration of the assumptions underpinning the options appraisal. Therefore, work to progress LHS as an inert waste disposal site was formally paused as direction was given to the Committee through the Government Work Plan – Stage 2 Policy Letter (agreed by the Assembly in July 2021) to determine the most appropriate future strategic use of LVQ. Options considered were inert waste disposal, water storage, and a combination of the two (i.e. dual use).

1.15 Taking into account new information which had come to light since the previous States debates regarding the future inert waste disposal facility, the Committee undertook a further comprehensive options appraisal process to identify the optimum solutions for the future strategic requirements of both water storage and inert waste disposal. This included consideration of not only LVQ, but also a number of former quarries for water storage and inert waste disposal as well as options for land reclamation for inert waste and a desalination plant for water. Costs, environmental impacts, engineering assessments and timelines were all evaluated as part of the appraisal process.

[2] Resolutions of the States, Planning for a New Facility for Managing Residual Inert Waste, Billet d'État X, 2020.

1.16 It was acknowledged that should the States decide to use LVQ for inert waste disposal, an alternative future water storage or supply solution would need to be identified to ensure the required supply-demand balance is achieved in line with water policy.

1.17 The identification of a future inert waste disposal site has become an urgent issue as the existing land reclamation site at Longue Hougue has reached capacity. Planning permission for stockpiling of inert waste has been received but is limited to three years, and provision will have to be made for the future double-handling costs that will be incurred for relocating this material once a new disposal site is available.

1.18 Towards the end of the evidence gathering process for the options appraisal, the Guernsey Development Agency ("GDA") began to advance plans for the regeneration of the Bridge, including the reclamation of land at Black Rock which will require large quantities of inert waste, and the Committee agreed to include this site as an option.

1.19 The water supply and waste disposal assets under consideration by the Committee were LVQ, LHS, Longue Hougue Reservoir (LHR), two smaller former quarries (L'Epine and Guillotin), Black Rock and the construction of a desalination plant. Descriptions of each are provided in Section 4, together with their advantages and disadvantages.

1.20 The dual use of LVQ for inert waste disposal followed by water storage was also considered at the options appraisal stage, i.e. several years of inert waste disposal capped by concrete followed by water storage above. The dual use options were subsequently discounted as unacceptable as there was no evidence that they would not risk contamination of the water supply for the lifetime of the reservoir, i.e. in perpetuity. No precedent has been found for a freshwater storage reservoir above an inert waste disposal site and the Committee and STSB agreed that dual use was likely to undermine public trust in the water supply.

1.21 Indicative costs have been provided for each option. Whichever option is chosen for inert waste, the intention is that the facility will be funded from a loan to Guernsey Waste from General Reserve and repaid by gate fees collected over the lifetime of the facility. The strategic value of reclaimed land is also a key consideration.

1.22 When considering future water supply options, the desalination plant was noted to be the most costly and the resulting increases to bills which would be required under current funding arrangements were likely to be unaffordable for water customers.

1.23 In recent months, Black Rock has become a more viable option for the next inert waste disposal site within the required timeframe as the GDA continue to progress preliminary investigations at pace and its strategic vision for the Bridge was endorsed by the States in December 2024[3]. Using Black Rock as the next site has the advantage of strong alignment with States' current priorities and it will enable the funding allocated in the Major Projects Portfolio Programme pipeline for an inert waste disposal facility to support the development. This in turn will contribute towards the achievement of multiple States' strategic objectives including the development of new housing, the regeneration of the Bridge and the creation of coastal flood defences. The development will require some initial investment from the States; however, the GDA will engage with potential investors to encourage and secure private investment with a view to the development becoming cost neutral to the States. The GDA's Business and Funding Plan will identify options for how surplus profit will be returned to the States or reinvested to further support delivery of the States' strategic objectives for the east coast[3].

1.24 The environmental impacts and required mitigations at Black Rock are likely to be similar to those identified through previous investigations at LHS. The GDA has undertaken preliminary environmental investigations ahead of a full Environmental Impact Assessment ("EIA") and has been working closely with relevant professionals and third sector organisations to ensure environmental impacts are avoided, minimised or meaningfully mitigated.

1.25 Following consideration of the detailed options analysis and all the information available, the Committee recommends that the most appropriate strategic approach for future water storage and inert waste disposal is to use LVQ for water and to use Black Rock as the next inert waste disposal site.

2 Introduction

2.1 LVQ is located on the west coast in St Sampson and is currently owned by Ronez. LVQ is understood to have originated as a working quarry in the early 19th century and remained in operation until shortly after the Second World War. It was reopened by Ronez in 1961 where it has operated continuously until recently when quarrying operations were transferred to Chouet Headland. There remain some stone reserves in LVQ under the existing processing plant, however, and Ronez continue to use the site to process stone extracted at Chouet. They will continue to do so until the necessary plant can be accommodated at the Chouet site, at which point quarrying of the remaining stone reserves at LVQ will commence.

[3] Resolutions of the States, Guernsey Development Agency Update, Billet d'État XXII, 2024

2.2 It was previously estimated that the unconstrained reserves[4] at LVQ would not be exhausted until 2028. However, this was subsequently revised by Ronez and brought forward to the end of 2024, which prompted the need to determine whether quarrying would continue on-island or whether aggregate would need to be imported. In September 2021, the States agreed to continue quarrying on-island for the medium to long-term at Chouet Headland[5] and as a result, Ronez has progressed the establishment of a new quarry which is expected to provide around 35 years of supply[6]. Chouet has been identified in the Development Framework for the site as a potential location for inert waste disposal in the longer-term[7].

2.3 In 2020, following a detailed options appraisal and a recommendation put forward by the States' Trading Supervisory Board and the Committee, the States agreed that the BPEO[8] and preferred option for future inert waste disposal was to extend the existing land reclamation site to LHS[9]. At that time LVQ was ruled out as a potential inert waste disposal site in the short-term, because it was understood that it would not be available within the required timeframe.

2.4 As it is now known that LVQ is potentially available for some level of inert waste disposal before the stone reserves are fully extracted, this required further exploration ahead of the conclusion of the Local Planning Brief and the associated Planning Inquiry for LHS, together with any other technically viable options, which is what this policy letter seeks to address. Without this wider consideration, there would be a risk of the Planning Inquiry finding against LHS.

2.5 Through the Government Work Plan – Stage 2[10], the Committee was required to identify and consider options to determine whether LVQ should be used for freshwater storage, inert waste disposal or dual use of the two. However, the use of this potential strategic asset cannot be looked at in isolation. A decision to use LVQ for inert waste disposal, or partially for inert waste disposal, would

[4] 'Unconstrained' reserves relate to the area of granite which has been extracted through quarry operations at Les Vardes Quarry; 'constrained' reserves relate to the area of granite located beneath the operator's plant and equipment at the quarry, which cannot be extracted until that plant is removed to give access to the reserves.

[5] The Island's Future Aggregate Supply, Billet d'État XIX, 2021

[6] This covers the development of the full headland based on the average extraction rate, which could increase or decrease depending on the level of future demand.

[7] Chouet Headland Development Framework, paragraph 7.56

[8] The Environmental Pollution (Guernsey) Law, 2004 refers to the best practical environmental options (BPEOs), with the identification of the BPEOs being a function of the Waste Disposal Authority under clause 30 (1) (d) of the Law. BPEOs are defined as the options that provide the most benefits or the least damage to the environment, as a whole, at acceptable cost, in the long term as well as in the short term.

[9] Planning for a New Facility for Managing Residual Inert Waste, Billet d'État X, 2020

[10] The Government Work Plan 2021-2025, Billet d'État XV, 2021

require consideration of how the Island's strategic water storage requirements will be met. As long acknowledged by the States[11], the future strategic requirements for waste, water and stone resources and facilities are inextricably linked, and taking into account new information which had come to light, the Committee undertook a wider comprehensive options appraisal process to identify the optimum solutions for the future strategic requirements of both water storage and inert waste disposal by considering not only LVQ, but also looking at a number of former quarries for water storage and inert waste disposal, as well as options for land reclamation for inert waste and a desalination plant for water.

Strategic water storage requirements

2.6 LVQ has been identified as a potential future freshwater storage reservoir for the Island for a number of years. A policy letter brought to the States in 2006, 'Report on the Future of Solid Waste, Water and Stone Reserves in Guernsey[12]' considered the potential future use of LVQ for water or waste and recommended that Les Vardes Quarry should be identified for future freshwater storage. This was supported by the States in its Resolution of 27th September 2006 to 'confirm that Les Vardes Quarry shall be identified as a strategic asset for freshwater storage (once quarrying activities there cease).'[11]

2.7 LVQ is safeguarded for freshwater storage through the Strategic Land Use Plan (SLUP)[13] unless the States prioritises its future for an alternative form of strategically essential development. This was carried through to the policies in the Island Development Plan (IDP) in 2016[14].

2.8 As part of the options appraisal process, Guernsey Water conducted a review of the Island's Water Resources and Drought Management Plan ("WRDMP") to ensure the most recent and relevant evidence was available when considering the potential future strategic use of LVQ. A summary of the WRDMP is provided at Appendix 1.

2.9 The WRDMP provides strategic direction to meet the supply and demand forecast for water over the period to 2080. In assessing the risk and uncertainty surrounding future water supply reliability and demand, Guernsey Water has considered population increases; the potential effects of climate change on the frequency, magnitude, and duration of droughts; the impact of pollution in the St Saviour's Reservoir catchment (caused by historic pollution incidents);

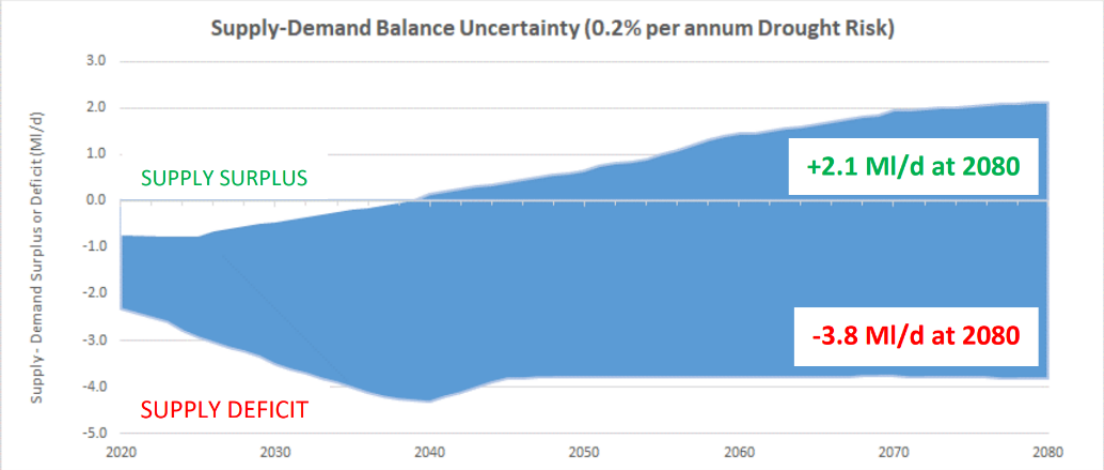
[11] See Resolutions of the States, Report on the Future of Solid Waste, Water and Stone Reserves in Guernsey, Billet d'État XV, 2006
[12] Report of the Future of Solid Waste, Water and Stone Reserves in Guernsey, Billet d'État XV, 2006
[13] The Strategic Land Use Plan, Billet d'État XIX, 2011, pages 56 & 57 and Policy SLP20
[14] Island Development Plan, 2016

pesticide pollution; and water efficiency improvements over time.

2.10 Uncertainties around the future demand for water are principally driven by population and water consumption considerations. The WRDMP review considered water resilience and supply across three scenarios: lower, middle, and upper[15], taking into account population projections and expected efficiency improvements in water consumption.

2.11 Figure 1 below summarises the uncertainty relating to the future supply-demand balance arising from the planning scenarios. This illustrates that by 2040 a material supply deficit is anticipated under the upper scenario of 4.3 million litres per day (Ml/d) compared to a very small deficit of 0.2Ml/d under the lower scenario. By 2080, outcomes range from a supply surplus of around 2.1Ml/d for the lower scenario to a supply deficit of around 3.8Ml/d for the upper scenario.

Figure 1 - Supply-Demand Balance Uncertainty over Planning Period to 2080



2.12 For the purpose of this workstream, the Upper Scenario has been used as it included an assumption of +300 net migration per year which is in line with the States' direction that all future infrastructure planning should cater for net migration of at least +300 per year over the next 30 years.[16]

2.13 Further information on future supply demand balance projections and Guernsey Water's adaptive plans are provided in the Water Resources and Drought Management Plan 2025-2080 Summary at Appendix 1.

Strategic inert waste requirements

[15] Scenarios relate to population increases: lower is +100; middle is +150 to 2040 and then +200 for 2041 to 2080; and upper is +300 net migration per year

[16] Committee *for* Home Affairs – Population and Immigration Policy Review, Billet d'État XVIII, 2022

2.14 The Inert Waste Strategy[17] sets out the high-level strategic direction for the management of inert waste in Guernsey and complements the Island's Solid Waste Strategy. Both strategies are based on the Waste Hierarchy, an internationally accepted principle and guide to sustainable waste management which places recovery of waste, including via land reclamation or former quarry infill, above disposal.

2.15 Inert waste is material produced from excavation, construction, and demolition activities, and mainly comprises rubble, hard-core, concrete, bricks, tiles and other ceramics, clean soil, and mixtures of these items. More than 100,000 tonnes of inert waste are generated each year[18]. A substantial proportion of this is recycled or reused, but this does not negate the need for a disposal site. Failure to provide an inert waste disposal solution would negatively impact the Island's economy through the limitations it would place on the construction industry.

2.16 The current inert waste disposal site at Longue Hougue surpassed the predicted completion date but has now reached capacity. Inert waste material that cannot be recycled or reused is now being stockpiled at the site until the next disposal site is established. Planning permission has been granted for stockpiling at the site; however, the current conditions impose a time limit of three years, following which the stockpile must be removed over a further period of three years[19].

2.17 Guernsey Waste, with support from finance officers, has completed a forecasting exercise to help predict future levels of residual inert waste. This developed three different scenarios of lower, middle, and upper case which predict capacity levels of 53,000 tonnes, 83,000 tonnes and 122,000 tonnes respectively of residual inert waste per annum. For the purpose of planning, the mid-case scenario is used by Guernsey Waste and therefore, all assessments as part of this workstream have considered an annual requirement for 83,000 tonnes of inert waste. These expected levels of residual inert waste do not allow for large capital projects which might increase overall tonnages, or for strategic developments which may divert inert waste from the disposal site.

2.18 Using the mid-case forecasting level the next inert waste disposal site(s) should have capacity for at least 1,245,000 tonnes of material to achieve an operational life of at least 15 years. As with all forecasting exercises, circumstances do change and therefore, the average annual tonnage might

[17] Inert Waste Strategy - Appendix 2 to Billet d'État X, 2020

[18] Annual Waste Management Report for 2023 (See table 4.3.1)

[19] Temporary Stockpiling at Longue Hougue – Planning Application Report, 2024

increase or decrease resulting in the disposal site(s) having a shorter or longer operational life than anticipated.

Stockpiling

2.19 Stockpiling of inert waste has been an inevitable consequence of a new disposal site not being available before the current Longue Hougue Land Reclamation was complete. While necessary, it should be acknowledged that it is not ideal.

2.20 Currently, the existing Longue Hougue site is considered the best location for stockpiling. Guernsey Waste has received planning permission to stockpile inert waste to the east of the previous reclaimed land at Longue Hougue. The footprint of the area is approximately 19,000m^2 and is expected to hold approximately 2.5 years' worth of stockpiled material using previously modelled tonnages. However, the volume of residual inert waste for 2023 is below the modelled tonnages and at these rates, the stockpile area would last for nearly 3.5 years, although planning permission has only been granted for 3 years.

2.21 Should there be a need for further stockpiling of inert waste material once this approved area is at capacity, Guernsey Waste has identified a further two areas for up to five years' further stockpiling at Longue Hougue which would require prior planning permission. Further stockpiling would, however, inhibit future development of Longue Hougue Reclamation Site and would also impact on existing operational activities at the site (e.g. aggregate recycling).

2.22 It has been acknowledged that stockpiling is not ideal, due to the additional costs that will be incurred for double-handling, estimated to be around £500,000 for each year of stockpiling. This is recovered through the 'gate fee' charges levied on the construction industry. The longer this operation continues, the more double-handling costs will be incurred.

2.23 Stockpiling can also be seen positively, as it provides a ready supply of material, in large volumes, that can be used for developments of a strategic nature that require inert waste, as in the case of Black Rock. This could therefore accelerate completion, albeit that does then reduce any remaining life as a disposal site. In other words, continued stockpiling until land reclamation can commence at Black Rock would speed up the availability of land there for future development. However, this is effectively starting to fill the next disposal site now.

Shortlisted options

2.24 Working closely with both Guernsey Waste and Guernsey Water, the Committee has explored a multitude of option combinations to meet our Island's strategic inert waste disposal and water storage requirements. This includes but is not limited to Black Rock, LHS, LVQ, decommissioning and infilling LHR and other smaller quarries, and a desalination plant. An initial list of 19 options was identified and is attached at Appendix 4. This was subsequently reduced to eleven, as nine options did not resolve the predicted water supply deficit identified through the Water Resources and Drought Management Plan, and Black Rock was included at a later stage. All eleven options have been thoroughly considered and are explored in greater detail throughout this policy letter.

2.25 Although not a requirement in Guernsey, Strategic Environmental Assessments were commissioned for the assets that form part of the options considered through this workstream.[20] The Committee felt that it was important to understand the potential environmental implications of implementing and operating sites as reservoirs or inert waste disposal sites, as well as considering the engineering challenges and benefits and associated costs. The findings of the SEAs are summarised within Sections 4 and 5 of the Policy Letter.

2.26 LVQ is currently in private ownership and therefore information regarding its potential value has not been included in this policy letter to ensure commercial negotiations are not impacted. The Policy & Resources Committee remains under resolution to negotiate with landowners in relation to LVQ following the policy letter titled "The Island's Future Aggregate Supply"[21]and the decision on the future use of LVQ will inform this.

3 Policy Context

Fiscal Policy

3.1 Guernsey's Fiscal Policy Panel confirmed in March 2025 that the States of Guernsey needs to take a longer-term view of infrastructure with more focus

[20] As Black Rock was not initially included in the Options Appraisal, a Strategic Environmental Assessment for this site has not been done but a full EIA is imminent at the time of writing.

[21] Billet d'État XIX, 2021 – 'To direct the Policy & Resources Committee, in consultation with the Committee *for the* Environment & Infrastructure, to continue negotiations with land owners in relation to Les Vardes Quarry and Chouet Headland, including, where appropriate, in relation to the acquisition of land or the right to use land, in order to best achieve the States of Guernsey's strategic aims in relation to on-island quarrying and other potential future strategic uses and to bring forward its recommendations to the States of Deliberation.'

on their benefits to the community[22].

3.2 This independent analysis commissioned by the Policy & Resources Committee confirmed that Guernsey had a history of underinvesting in its infrastructure and has struggled to maintain a smooth progression of projects through its capital programme. This is constraining economic growth.

3.3 Investment in infrastructure is necessary to support productivity and growth, and the Panel recommended public sector spending of 3% of GDP on infrastructure over the medium- to long-term.

Land Use

3.4 LVQ is currently identified and safeguarded as a strategic asset for freshwater storage in the SLUP[13] and the IDP[14]. This does not designate the site for water storage but safeguards it against other forms of development which may compromise its use for that purpose if required in the future. However, there is provision within the SLUP for the States to prioritise its future use for an alternative form of strategically essential development, should that case be made. Therefore, although LVQ has been safeguarded for water storage by the States an alternative form of strategically essential development can be considered. Safeguarded sites may require a Development Framework to be agreed before planning applications are submitted.

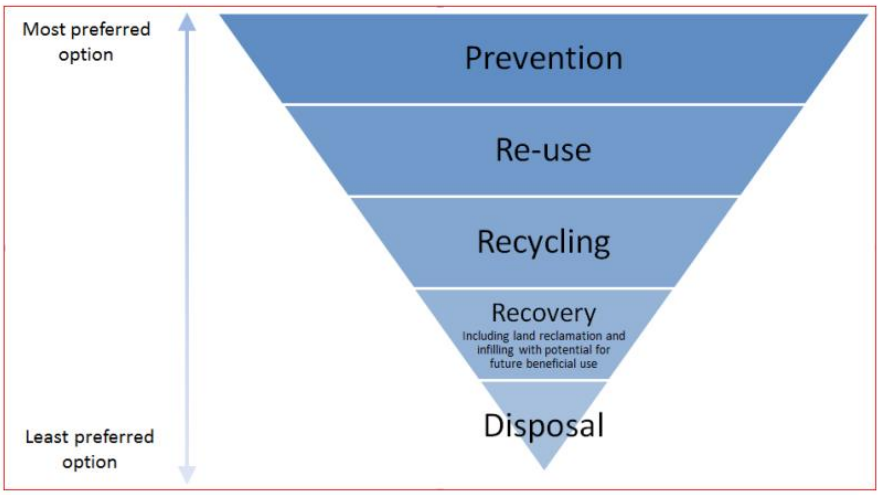
3.5 Sites which will be used for the disposal or processing of waste or as reservoirs for public water supply will require an EIA and Environmental Statement. The areas which must be included within an EIA and the matters to be discussed in the Environmental Statement are defined in The Land Planning and Development (Environmental Impact Assessment) Ordinance, 2007[23].

Inert Waste Strategy

3.6 Guernsey's Inert Waste Strategy[17] was approved in 2020 and sets out the way in which inert waste must be managed. It is based on the Waste Hierarchy, an internationally accepted principle and guide to sustainable waste management which places recovery of waste, including via land reclamation or former quarry infill, above disposal. Guernsey's Inert Waste Hierarchy can be seen below in Figure 2.

[22] Fiscal Policy Panel Report 2025
[23] The Land Planning and Development (Environmental Impact Assessment) Ordinance, 2007

Figure 2 – Inert Waste Hierarchy



3.7 In accordance with the Inert Waste Strategy, material should always be diverted for use on strategic projects ahead of disposal. This not only reduces disposal requirements but adds value to the inert waste. Potential strategic projects which might come forward in the foreseeable future were therefore considered as part of this workstream.

Water

3.8 Guernsey Water is responsible for providing high quality and reliable water supplies to households and commercial customers across the Island. Water supplies are provided by an integrated water resource system comprising stream intakes, raw water storage facilities, water treatment works and treated water storage reservoirs which together supply customers through an interlinked network of water distribution pipes. Future demand for water is primarily driven by population, the number of properties to be supplied and how much water customers use each day.

3.9 Current resilience would only ensure a reliable water supply in the event of a repeat of the worst historic drought on record in Guernsey (1991-92). A drought of this severity has been assessed as having a 0.8% annual probability. There is a 24% chance of such a drought occurring in the next 30 years. The water policy applied to the updated WRDMP brings Guernsey in line with water resource planning practice in England[24], which addresses serious concerns about the economic, environmental, and public health impacts of water

[24] Environment Agency (2023) Water Resources Planning Guideline

rationing[25] and the practicalities of implementing them. The plan has adopted a water reliability standard that will secure water supplies in a severe drought with a 0.2% annual probability. There is a 6% chance of such a drought occurring in the next 30 years. Analysis carried out for the National Infrastructure Commission[26] indicated that proactively preparing for a drought of this severity may cost half the amount that emergency measures such as water rationing could cost. Water companies in England are required to meet this standard by 2040 and the same assumption has been applied to the WRDMP.

3.10 The additional resilience required to meet the updated water policy can be achieved through demand management measures such as compulsory water metering, water efficiency initiatives and temporary restrictions on use of hosepipes and sprinklers during drought. These measures are part of all the WRDMP options considered. However, legislative change will be needed to enable them; Guernsey Water requires legal powers to fit water meters for all customers and legislation[27] requires updating to enable restriction of different uses of water that have become more prevalent since it was written.

3.11 This level of resilience reduces the risk of water rationing as far as reasonable and practical, given that more severe droughts are expected to occur in future as a result of climate change. In addition, as an island, Guernsey is unable to transfer water resources from neighbouring jurisdictions in the event of a severe drought, which reduces resilience when compared with more interconnected water companies in England.

Environmental Pollution Law, 2004

3.12 The Environmental Pollution (Guernsey) Law, 2004 ("Environmental Pollution Law")[8] requires identification of the best practical environmental options (BPEOs) for the recovery or disposal of inert waste by the Waste Disposal Authority under clause 30 (1) (d).

3.13 The UK interpretation of 'Best Practicable Environmental Option' is "the option that provides the most benefits or the least damage to the environment, as a whole, at acceptable cost, in the long term as well as in the short term". The approach taken locally has been broadly based on this, whilst taking into consideration the local legislation and circumstances.

[25] Restricting water supply to certain times of the day (rota cuts) through temporary taps (standpipes) in streets

[26] National Infrastructure Commission (2018) Preparing for a drier future: England's water infrastructure needs; National Infrastructure Commission (2023) Second National Infrastructure Assessment

[27] The Water Byelaws (Restrictions) Ordinance 1976

3.14 The majority of waste operations are required to have a Waste Management Licence under Part III of the Environmental Pollution Law. This includes, but is not limited to, collection, transportation, processing, and disposal of waste. Applications are considered and approved by the Director of Environmental Health and Pollution Regulation. In order for applications to be granted, they must not cause serious risk of significant environmental pollution, must align with States' policies and strategies and have the relevant planning permissions. Conditions can also be imposed on licences.

Climate Change Policy

3.15 The Climate Change Policy & Action Plan was agreed in 2020[28] and established a target of net zero emissions (or carbon neutrality) by 2050 in relation to greenhouse gases. An interim target of reducing emissions by 57% on 1990 levels by 2030 was also agreed. Carbon assessments for each inert waste disposal and water storage option have therefore included estimates of both embodied and operational carbon.

3.16 The Committee is bringing forward an updated government plan for meeting the targets through the policy letter entitled "Pathway to Net Zero". This will set out the shorter-term actions along with a longer-term plan for review and updates, based upon existing and forecast performance.

On-Island Integrated Transport Strategy

3.17 The On-Island Integrated Transport Strategy ("ITS") was approved in 2014[29]. Through the options appraisal, the Committee has considered the potential number of vehicle movements required to deliver each option and looked to minimise vehicle movements wherever possible in line with the ITS and climate change targets, as well as in consideration to those who might be impacted.

Strategy for Nature

3.18 The States' approach to nature management was reviewed and the Strategy for Nature was endorsed by the States in 2020.

3.19 As part of the evidence gathering exercise for this workstream, SEAs were completed for both the inert waste disposal and water storage options. This included reports on Habitat Regulations Assessment, Natural Capital Assessment, Biodiversity Net Gain and Invasive Non-Native Species. At the time

[28] Mitigate Climate Change – States of Guernsey Climate Change Policy & Action Plan, Billet d'État XVI, 2020
[29] Guernsey Integrated On-Island Transport Strategy, Billet d'État IX, 2014

of commissioning these assessments, Black Rock was not being considered as a site for inert waste, therefore an SEA was not produced; however, preliminary environmental investigations have taken place ahead of a full EIA and are referenced in paragraph 4.55.

Future Harbour Requirements

3.20 At the time of writing, work to consider options for the potential long-term relocation of Guernsey's commercial ports is ongoing. The Local Planning Brief for the Harbour Action Areas, published by the Development & Planning Authority[30], recognises that the two most likely locations for a new commercial port are: either adapting and expanding the current harbour at St Peter Port; or creating a new port at St Sampson in a similar area to that identified as a potential site for inert waste disposal at Longue Hougue South.

3.21 As there has been no formal decision by the States of Deliberation on the potential for a new commercial port or its location, the Committee has considered the area at Longue Hougue South available for an inert waste disposal site, as previously identified by the States, and has included it within the options appraisal.

Guernsey Development Agency – Black Rock Land Reclamation Proposals

3.22 Towards the end of the options appraisal process detailed in this policy letter, the GDA wrote to relevant States Committees requesting the use of inert waste for its strategic development projects such as the substantial land reclamation proposed at Black Rock. The GDA has advised that it could accommodate up to 12 years of inert waste in the Black Rock development, and potentially up to 20 years' worth in other strategic developments. The establishment of a land reclamation site at Black Rock requires planning permission which in turn needs an Environmental Impact Assessment, and there are a number of permissions and processes that have to be undertaken before this development can be progressed to completion.

3.23 In December 2024, the States endorsed the GDA's strategic vision for the Bridge and the funding to progress the next stages of realising that vision[31]. The Committee included Black Rock as an option within the shortlist and assessed it alongside the other inert waste disposal options.

[30] Local Planning Brief of the St Peter Port and St Sampson Harbour Action Areas, P2025/31
[31] Guernsey Development Agency Update, Billet d'État XXII, December 2024

3.24 Black Rock has the significant benefit of diverting inert waste to a planned regeneration and housing project, which gives value to the waste and may also provide a valuable function in minimising the need for costly stockpiling.

4 Summary of scenarios and assets

4.1 The Committee was directed, through the Government Work Plan, to determine the future strategic use of Les Vardes Quarry as part of the regeneration workstream, which aims to ensure that the Island's infrastructure does not restrict essential development[32].

4.2 There are three high-level scenarios for the future use of LVQ:

a) Use of LVQ for water storage only
b) Use of LVQ for inert waste disposal only
c) Use of LVQ for inert waste disposal (short-term) followed by water storage.

4.3 Should Option A above be realised, an alternative site for inert waste disposal must be confirmed. Should Option B be realised, then an alternative way to meet the required water policy position must be identified. Option C provides a location for inert waste disposal in the immediate term and a mechanism to meet the water policy but would not provide a long-term solution for inert waste disposal. In order to fully meet the island's inert waste disposal and water storage requirements, the use of other assets has been considered. This includes:

- Longue Hougue Reservoir, currently within Guernsey Water's ownership and the Island's largest water reservoir;
- L'Epine Quarry, currently within Guernsey Water's ownership;
- Guillotin Quarry, privately owned;
- Longue Hougue South, an area off the East Coast previously identified as a potential inert waste disposal site through land reclamation;
- A new desalination plant;
- Black Rock – a land reclamation project planned by the GDA

4.4 In addition to the above, the Guernsey Development Agency has advised that other planned strategic developments in the future will require significant quantities of inert waste.

[32] P.2023 96 – Government Work Plan 2023-25 - Appendix 3

4.5 The table below provides a summary of site capacities for comparison.

Figure 3 - Site Capacities

Site	**Capacity (water)**	**Capacity (waste)[33]**	**Duration (waste yrs)**
Longue Hougue Reservoir	1,159,000 litres	2,035,000t	28
Longue Hougue South	n/a	1,500,000t	15 - 20
Les Vardes Quarry	1,945,000 litres	3,000,000t	60
Smaller quarries (L'Epine and Guillotin)	n/a	285,000t	4
Black Rock	n/a	840,000t	12
Desalination plant	5Ml/d	n/a	n/a
St Saviour's Reservoir/ Juas Reservoir (for comparison)	1,091,000/ 586,000 litres	n/a	n/a

Les Vardes Quarry

4.6 At the end of 2024, the quarry operator finished extracting the unconstrained reserves at LVQ, leaving only the constrained reserves under its processing plant. The quarrying operation has now transferred to Chouet Headland for approximately four years, after which there will be sufficient space for a new processing plant to be located there. However, in the interim, the processing of stone extracted at Chouet Headland will occur at LVQ so its operational use will continue for this period. The current operator then intends to return to LVQ to extract the remaining resources in the southern area, which could supply the market for a further 4.5 years. The extraction of constrained reserves is anticipated to be completed in 2034.

LVQ – Inert Waste

4.7 With the current timeline for quarrying activities, there is the possibility of depositing some inert waste into LVQ before the entire site becomes available in 2034. However, this would require a Service Level Agreement, or another

[33] Common to all options, the duration of the site will be reduced by the number of years of stockpiled material which will need to be transferred.

suitable mechanism, to be agreed between the States of Guernsey and the current owner/operator and agreement to be reached regarding operation of the inert waste disposal site. Alternatively, the States could discuss the possibility of not extracting the stone reserves located under the existing plant with the current operator. Although further negotiation is needed should use of LVQ be required before all of the stone is extracted, options which include this have been explored within the options appraisal.

4.8 The engineering assessment estimates that when the remaining stone reserves have been extracted, the quarry could provide approximately 60 years of inert waste disposal, based on current production and compaction rates.

4.9 As LVQ has recently been in use as a quarry, there is little preparatory work needed at the site should it be used for an inert waste disposal site. An entry ramp is already in place, which would be suitable for a waste disposal operation. An EIA would be required as part of the planning application but would not necessarily take as long as one year to complete as data already exists for the site from previous planning applications.

4.10 The SEA recorded that the change of use from excavating the quarry to infilling the site with inert waste would have the potential to disrupt terrestrial habitats and/or species that may be present in the quarry.

4.11 If LVQ was used for inert waste, a desalination plant would be required (see paragraphs 0-4.52). In addition, a significant disadvantage of using LVQ for inert waste would be the diversion of fill material away from strategic developments such as Black Rock.

4.12 The cost of preparing LVQ for waste is estimated to be £300,000, but this does not take into account the cost of acquiring the quarry.

Les Vardes Quarry – Water

4.13 Should LVQ be converted to a raw water storage reservoir it would have an approximate capacity of 1,945 million litres. A desktop geotechnical assessment did not identify any constraints that would make LVQ unviable as a water storage reservoir. However, more detailed geotechnical surveys are needed to determine any stability or water ingress mitigation that may be needed. At this early stage it has been assumed that the reservoir sides and base would require lining for water quality reasons, but no allowance has been made for stabilisation on the assumption that little will be needed for conversion given that it is sufficiently stable for current quarrying operations. Enabling works also include upsizing and connection to the existing water network, which could take place from 2032 to 2034 before the constrained reserves are extracted and the reservoir established in 2035 (see timeline at paragraph 4.57).

4.14 There would be a positive environmental impact in the provision of the Island's largest reservoir, and the creation of new aquatic habitat. There would also be some negative impacts which will need to be managed and mitigated, including the temporary loss of habitats along the new pipe routes.

Dual use of Les Vardes

4.15 The feasibility of 'dual use' of LVQ has been explored. This is where an agreed amount of inert waste material would be deposited in LVQ, after which it would be used for water storage.

4.16 For these options, aligned to the extraction schedule provided by the owner/operator of Les Vardes, inert waste could be disposed of at the site from 2025 for 10 years without impacting constrained reserves.

4.17 Dual use would significantly reduce the storage capacity of the reservoir, and a follow-on site for inert waste disposal such as Longue Hougue South or Longue Hougue Reservoir would still be required after disposal (options of 5, 10 and 15 years for waste, followed by water, were considered).

4.18 No precedent has been found for conversion of an inert waste facility into a reservoir for the purpose of public water supply. As a result of this, there are a lot of unknowns and risks.

4.19 Uncontrolled inert waste disposal would bring water quality risks which remain even with selective disposal of excavation waste, although they would be significantly reduced. Inert waste covers a variety of materials, and through the application of waste acceptance criteria the types of inert waste materials that can be disposed of at different sites can be controlled and the risks reduced but not eliminated. There would also be a need for stockpiling and disposal at an alternative site for those inert wastes that did not meet the potential criteria for selective disposal at Les Vardes.

4.20 Enhanced screening, groundwater monitoring and additional water treatment processing will likely be required, which would increase operational costs, as well as the likely need for additional quality checks than those currently undertaken. From an environmental health and pollution perspective, the advice received is that the short-term disposal of inert waste material into LVQ would not rule out the possibility of using the site for water storage in the future as remediation options can be applied, but the Committee and STSB are satisfied that dual use presents unacceptable risk, as the potential for contamination could severely compromise the security of future water resource requirements and undermine public confidence in the public water supply.

Longue Hougue Reservoir

4.21 LHR is located in St Sampson, just off Bulwer Avenue. The quarry was purchased by the States Water Board in 1970[34] for use as a reservoir and remains in that use today. The nature of the surrounding land uses, including industrial uses and a designated Key Industry Area, means that there is pollution risk.

4.22 Indicative engineering assessments completed by industry specialists have estimated that the volume of the void at LHR, once decommissioned, is sufficient for up to 28 years of inert waste disposal at the currently modelled production and compaction rates.

4.23 In terms of the stability of LHR the engineering assessment concluded that the western edge of the quarry has receded since the site was purchased but despite this, the proximity of many buildings around the quarry face suggests that generally, the slopes are stable and have not receded backwards to any great extent. Geological mapping of the rock mass will be required to assess the risk of similar failures occurring in the future, should the site be used for inert waste disposal.

4.24 A further stability and social consideration with altering the use of LHR is the landslip that occurred in the 1960s where part of the St Sampson Church Graveyard fell into the quarry. At the time, the church and Douzaine of St Sampson agreed that the landfall area could be flooded by Guernsey Water. On days where the levels of the reservoir are extremely low, the remains of headstones can be seen on the edge of the quarry. Should it be agreed in principle that LHR should be decommissioned and the quarry deployed as an inert waste disposal site, discussions with the church and Douzaine will be required to determine if that area of land needs to be separated from the disposal site, or the remains exhumed before any operations commence. Both mitigations will come at a cost and require time to be implemented.

4.25 Another consideration is that LHR currently supplies the firemain which runs along Bulwer Avenue and across St Sampson's Harbour to the Northside to provide a water source for fighting fires in the vicinity of the Island's fuel storage sites. Should LHR be selected as an inert waste disposal site, this issue will need to be addressed. Any re-routing of the firemain is likely to incur significant cost. A seawater source could be considered but may not prove viable due to the corrosive nature of seawater on infrastructure.

[34] History - Guernsey Water

4.26 There may be engineering challenges associated with installing the infrastructure and access ramp to enable the use of the quarry for the disposal of inert waste particularly due to the depth of the quarry and the proximity of neighbouring uses and this would need to be investigated further if the quarry is the preferred option for inert waste disposal. However, the resulting use of the land created could be industrial in nature and therefore compatible with surrounding uses and less susceptible to pollution risk.

4.27 The engineering assessments identified that there is likely to be insufficient space within the LHR site for the processing of inert waste and stockpiling of raw waste or reclaimed products, unless the existing buildings are demolished. Therefore, processing operations may need to remain at the existing nearby Longue Hougue site which has the existing necessary infrastructure with processed waste transferred over the road.

4.28 The environmental impact of converting LHR from a reservoir to an inert waste disposal site is covered in the SEA and can be summarised as having the major negative effect of reducing water supply on the island, and negatively impacting water quality, climate resilience and water resource use, although these impacts can be offset by gaining Les Vardes as a water resource. It also produces a major negative effect to biodiversity due to the loss of aquatic habitat and some moderate negative effects due to its designation as an Area of Biodiversity Importance (ABI). Gravestones and human remains from the neighbouring churchyard landslip would require sensitive treatment and removal. Noise disturbance and dust emissions may impact on air quality and the health and wellbeing of nearby residents and businesses during construction works and operation.

4.29 LHR would not be available for waste until LVQ becomes operational as a reservoir and LHR implementation work is done (estimated as 2038), requiring 13 years of stockpiling for which capacity is not available in the current site at Longue Hougue. LHR has therefore been discounted as the next inert waste disposal site, but could be re-considered as a follow-on site in future. Although land would be created as a result of the infill, there is some uncertainty over potential future uses due to uncompacted waste requiring some time to settle which may reduce the possibilities for closure and any beneficial end-use of the site. For this reason, the future value of the land area produced by infilling LHR is difficult to discern at the present time.

4.30 If LHR is decommissioned the water policy would be marginally in deficit (0.1Ml/d supply deficit for the upper supply-demand planning scenario from 2050 onwards). The decommissioning of LHR does not provide wider resilience benefits to deal with unplanned water supply outage risks, although the risk of a pollution contamination incident at LHR is removed. A significant consideration is the cost of decommissioning LHR which is estimated to be

£17m. In addition, the cost of preparing LHR for waste is estimated to be £1.6m.

L'Epine and Guillotin Quarries

4.31 L'Epine Quarry is located in the Vale, near to Beaucette Marina and is owned by Guernsey Water and used as a water storage reservoir. The boundary of the site is mainly abutted by areas of woodland and small fields. The gardens of two private houses join the southern boundary and Rue de L'Epine forms part of the eastern boundary.

4.32 The water level in the quarry varies depending on the need to balance the island's raw water resources. Topography surveys show that the quarry faces are irregular with steep sections up to 10m high. The rate at which the quarry is dewatered may impact the slope stability and therefore, a stability study will be required before any water is removed from the quarry.

4.33 The total volume of the quarry void below the crest of the slopes is calculated to be 76,815 cubic metres, which is 6% of the capacity of Longue Hougue. The preparation of L'Epine quarry for waste disposal will require approximately 1-2 years, depending on the time required to decommission the reservoir.

4.34 Guillotin Quarry is located in the Vale, approximately 200m from the coast at Bordeaux and is privately owned. If selected as a future disposal site an agreement to fill the quarry would need to be put in place with the current landowner. The site boundary is mainly abutted by gardens of private homes and some small fields. Vehicle access could be created from the Grande Rue (main coast road) by temporarily widening an access track with permission from the owner of the adjoining field, giving access into the site for two-way traffic.

4.35 The total volume of the quarry void below the crest is calculated to be in the region of 109,000 cubic metres. This equates to 10% of the capacity of Longue Hougue. The bedrock faces appear to be strong and in good condition, where visible. It is anticipated that one year will be required to commission Guillotin Quarry as an inert waste disposal site, from an engineering perspective.

4.36 The site is close to the former Bordeaux Landfill site to the south. Dewatering the quarry to enable disposal of inert waste would change the hydraulic gradient in the vicinity of the quarry and may lead to leachate migration from Bordeaux landfill site into the quarry which will require further consideration and potential treatment before discharge to the foul sewer network during disposal operations.

4.37 For both quarries, access to the base is expected to be difficult but will be required for engineering and dewatering works before inert waste can be deposited. There may be engineering challenges associated with installing the infrastructure and access ramps, and detailed topographic and geotechnical surveys will also be required to enable the use of the quarries for the disposal of inert waste. This would need to be investigated further if the quarries are utilised for this purpose. To access L'Epine, private land is currently crossed, and therefore negotiations with the landowner will be required.

4.38 It is proposed through the current focused review of the IDP[35] to add both quarries as Areas of Biodiversity Importance (ABIs). This will need to be considered and any impacts mitigated should the quarries be selected for inert waste disposal, but it is not currently envisaged that this would block their use as inert waste disposal sites. Both quarries would require planning applications and an EIA of one year's duration to be carried out before they could be used for inert waste.

4.39 In 2018, the Policy & Resources Committee rejected a request to fund EIAs for L'Epine and Guillotin quarries for inert waste as it considered they were unlikely to be selected above LHS as the next inert waste disposal sites. Concerns have been raised previously regarding disruption to neighbours and the loss of amenity value and wildlife habitat, should these quarries be filled in.

4.40 Although the infilling of the quarries will potentially result in land that can be re-purposed, current planning designations for surrounding areas would indicate that the residual land would have limited development potential (agricultural or amenity value only). The indicative cost for preparing the two quarries for waste is £1.4m.

Longue Hougue South Land Reclamation

4.41 The capacity of LHS is equivalent to approximately 1.5 million tonnes, assuming effective compaction, which would provide a disposal site of around 15 years. This could be extended by raising the final elevation, with each additional metre providing a further 2 years' worth of capacity.

4.42 Processing of aggregates would continue at the current Longue Hougue site until sufficient land had been reclaimed at LHS to allow operations to be relocated to that site, freeing up land at the current Longue Hougue site for other development.

[35] Island Development Plan Focused Review - States of Guernsey

4.43 Longue Hougue South has some geologically important features. It is also being considered as a potential location for the future harbour.

4.44 The site is likely to have a maximum lifespan of 12 years after stockpiled material has been deposited in the site. However, this could be extended should disposal rates drop or compaction increase. The site would be available in Q2 2028 assuming one year to complete the planning process, six months' design and tendering, and a minimum 18 months' construction of the rock armour around the site.

4.45 The environmental impact of infilling Longue Hougue South with inert waste was revisited by the SEA following previous studies including an EIA which concluded in 2019[36].

4.46 Although the SEA recorded some significant negative effects, work done previously as part of the EIA concluded that impacts could be mitigated. Due to some uncertainties associated with the assessment, a precautionary approach was applied in the SEA.

4.47 The indicative cost estimate for Longue Hougue South is approximately £35m and the reclaimed land will have strategic value with potential future use as industrial-zoned land. There may also be a cost to lease or acquire the seabed.

Desalination Plant

4.48 In order to meet the Island's anticipated future demand for water and provide resilience in the event of drought conditions, Guernsey Water has established that, should LVQ be unavailable for water storage, a desalination plant will be needed by 2040.

4.49 A sea water desalination plant could be installed at Longue Hougue, provided space was made available at the site. Water would be extracted from the sea via a pumped intake to the plant and the desalinated water would be pumped to Juas Quarry Reservoir to be blended with freshwater prior to final drinking water treatment. Blending with freshwater is important to achieve an optimal water chemistry prior to potable treatment and supply to customers. No alternative suitable location for a desalination plant has been found if Longue Hougue is unavailable.

[36] Longue Hougue South EIA, Royal Haskoning DHV, 2019

4.50 A desalination plant would fully meet the Water Policy as well as providing wider resilience benefits to deal with unplanned water supply outage risks, including the risk of a pollution contamination incident at LHR. The desalination plant would be scalable and therefore provide sufficient water supply reliability as a single intervention to fully address the upper scenario deficit, although this can also be addressed by a combination of other interventions. During operation, this option would provide a material supply-demand surplus: it would therefore help to meet the challenges of potential climate change impacts on water supply reliability over the longer-term beyond the 2080 planning horizon. However, this option is also very energy-intensive and expensive to construct, operate and maintain.

4.51 The Island has not had a desalination plant since the last one was decommissioned in the 1970s[37] as it proved uneconomical to maintain. Desalination technology has advanced significantly since then becoming more energy efficient and comparatively less costly (although modern desalination is still costly in comparison with water storage and/or management options). This option would require new skills to operate the complex treatment process that are not currently held by Guernsey Water staff. Achieving required water quality standards from variable sea water quality (including variable salinity as sea water temperature varies, plus marine algae risks) is a challenging operational issue, and outages are possible.

4.52 The construction and operation of a desalination plant could have moderate or major negative effects on biodiversity with noise, vibration, pollution, and suspended sediment potentially adversely affecting marine mammals and fish, while the hypersaline water discharge could impact marine habitats. The plant has a significant carbon footprint both for construction (34,000 tonnes CO_2 equivalent) and operation (306 tonnes per year CO_2).

Black Rock Land Reclamation

4.53 Black Rock is an area of coastal land located to the north of St Sampson's Harbour adjacent to Griffiths Yard and near Vale Castle. The reclamation and development of land at Black Rock forms part of the GDA's vision for the regeneration of the Bridge. The GDA have advised that this project will require approximately 12 years of inert waste, based on current disposal rates. Any stockpile which has accumulated in the meantime can be used to reduce the time it takes to reclaim the land. The GDA is currently undertaking an analysis of the development which will set out capital and operational costs and the potential return on investment. The GDA has plans to create upwards of 500 homes as part of the development which will also incorporate a gated

[37] History - Guernsey Water

breakwater from Black Rock to Longue Hougue providing flood protection to the Bridge and the Saltpans areas.

4.54 An indicative estimate of £38m has been given for establishing the rock armour to create the inert waste disposal site. This early estimate is subject to specialist analysis to consider the depth and crest height, but it is intended to construct the rock armour in relatively shallow water on the existing granite base. There will be additional project fees and costs such as the EIA, professional and design fees; there may also be a cost to lease or acquire the seabed. As with all inert waste disposal options, it is intended to recover the cost of the site through the gate fees over the lifetime of the site.

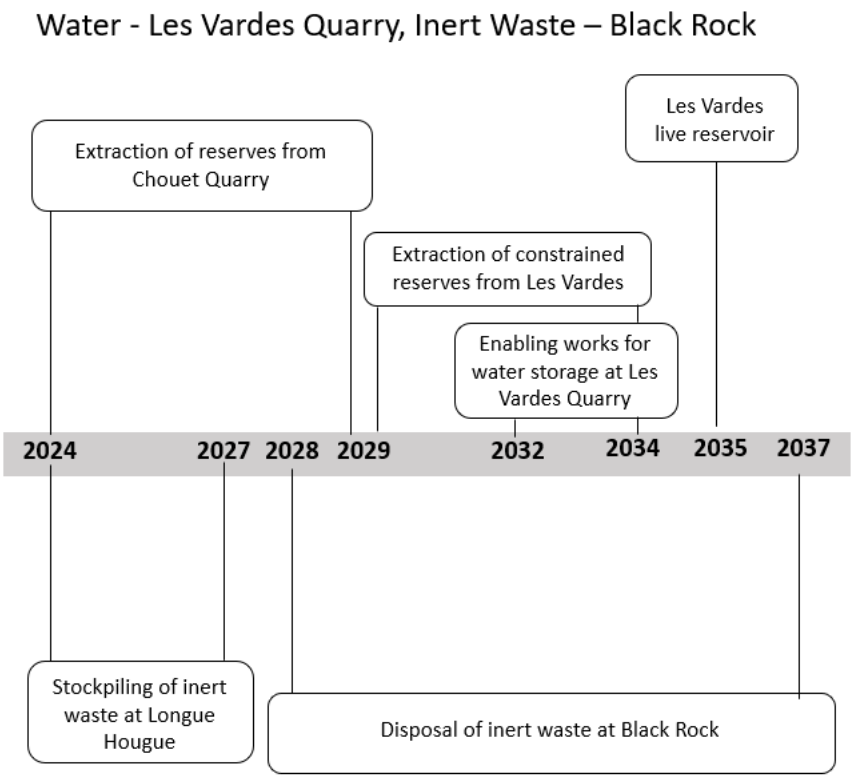
4.55 An area at Black Rock was shortlisted as an inert waste disposal option in 2017[38] but discounted at that time due to a significant environmental constraint as a habitat of importance for maerl. However, preliminary environmental surveys commissioned by the GDA have shown that maerl beds are located outside the area of impact for this development and a full EIA will confirm any potential impacts and mitigations. Early indications show that similar mitigations to LHS will be required. The EIA is expected to take one year before the GDA, working with Guernsey Waste, reports back to the States in 2026 with more detailed plans. Construction of the breakwater could potentially start in 2027, subject to planning permission being obtained within the required timeline (see Figure 4).

4.56 The selection of Black Rock as the next inert waste disposal site has the benefit of strategic alignment with multiple States' priorities and projects within the Major Projects Portfolio Programme such as the creation of land for development, new housing, regeneration of the Bridge and the installation of flood defences. It will be operated by Guernsey Waste and can utilise funding in the Major Projects Portfolio Programme pipeline to bring forward the site and enabling works.

4.57 An estimated timeline for this option can be seen in Figure 4 below and a more detailed estimated timeline is attached at Appendix 5. Timelines for the other shortlisted options can be found in Appendix 6.

[38] The Inert Waste Strategy and a Proposal for a New Facility for Managing Residual Inert Waste, Billet d'État XXIV, 2017

Figure 4 - Timeline for the Preferred Way Forward



4.58 As can be seen in the above timeline, the preferred way forward of LVQ for water and Black Rock for inert waste will limit the period of stockpiling required and provide an inert waste disposal site at Black Rock for approximately nine years after the stockpile is transferred.

4.59 The GDA has indicated that there will be an ongoing need for inert waste in the construction of strategic developments following the completion of Black Rock. However, Longue Hougue South and Longue Hougue Reservoir are the most viable follow-on sites if diversion to forthcoming strategic developments is not possible[39]. Longue Hougue South is considered to be the best contingency option should Black Rock not progress for whatever reason, due to its capacity and availability. (LHR would not be available until 2037, and the smaller quarries would only have a four-year capacity between them.)

[39] The GDA has advised that it is working on plans that will involve a further requirement for inert waste over the next 10-25 years, but these are yet to be finalised.

4.60 When the States agreed land reclamation at Longue Hougue South as the preferred way forward for the next inert waste site, a delivery timeline was set out for that. This included all the planning requirements, design, business case development, contract procurement and subsequent States approvals, followed by construction and waste licence approval. It was anticipated that from that point, these various stages would take around four years to complete, following which the new site would be available for operation.

4.61 The steps required for any Black Rock development will be determined by the specifics for that scheme, including how the site is considered under current planning policy. The process(es) may therefore be different from those for Longue Hougue South, providing opportunities to accelerate the timeline to development.

4.62 However, it will be subject to approval of a planning application before the construction of any land reclamation facility could commence. That will include a requirement for a full EIA, which would normally be expected to take at least 12 months, before an application can be considered. It is currently unclear to what extent other key activity – e.g. detailed engineering design, contract award, agreement of funding, and contractor mobilisation – could be progressed in parallel or would need to be sequential. A significant construction period would certainly be anticipated (which in the case of Longue Hougue South was estimated to be a minimum of 18 months) and could only commence after planning approval.

4.63 When the timeline for development of Longue Hougue South was established, that scheme was at a more advanced stage than Black Rock currently is. The full EIA had also been completed. Nevertheless, it was noted that there remained a number of project risks that could yet impact on some key milestones.

4.64 Therefore, around three years – comprising one year for an EIA and around two years for procurement, mobilisation, and construction – might reasonably be considered to be the 'best case' timescale for commencement of land reclamation at Black Rock. A more conservative assumption would be as long as four years, which was anticipated for Longue Hougue South, and would allow for delays due to dependencies such as the tender process and the location and availability of stone for the rock armour.

Shortlisted options

4.65 Following extensive technical feasibility and engineering assessments, 19 potential options were put forward for consideration by the two main stakeholders, Guernsey Waste and Guernsey Water. Nine options did not enable the agreed water policy position to be met and were therefore not shortlisted. Eleven options were deemed as technically feasible, shortlisted and considered in the options appraisal. These options are summarised in Figure 5.

4.66 Options 1 to 4 allow for all of the stone to be extracted from LVQ before the site is used for any other strategic use, and Options 5 to 7 involve the use of LVQ before all stone is extracted. Options 8 and 9 do enable the agreed water policy to be achieved, but slightly later than the ambition of 2040. The direction to the Committee was to identify an inert waste disposal solution with a lifespan of at least 15 years based on current modelling and compaction rates. The use of Longue Hougue South has been included in this exercise as it was previously identified as the preferred way forward, although it is likely to have a maximum lifespan of 12 years after the stockpiled material has been deposited in the site. Black Rock was more recently added to the shortlist as it emerged as an option later on in the process. It also has a lifespan of less than 15 years, so a follow-on site will need to be identified.

4.67 It should be noted that Options 1 to 10 below were identified for appraisal before the three-year stockpiling limitation was placed on Longue Hougue Reclamation Site in September 2024; therefore, some options include a requirement for stockpiling which cannot be met under the current planning permission which has been granted.

Figure 5 - Eleven shortlisted options to meet the Island's inert waste disposal and water storage requirements

Option No.	Assets used for water storage	Assets used for inert waste disposal
1	Les Vardes Quarry (sole use)	Longue Hougue Reservoir
2	Les Vardes Quarry (sole use)	Guillotin Quarry L'Epine Quarry Longue Hougue Reservoir
3	Les Vardes Quarry (sole use)	Longue Hougue South Longue Hougue Reservoir
4	Desalination Plant	Les Vardes Quarry (sole use)
Options including use of LVQ before 2033		
5	Les Vardes Quarry (dual use)	Les Vardes Quarry (5yrs) Longue Hougue South
6	Les Vardes Quarry (dual use)	Les Vardes Quarry (10yrs) Longue Hougue South
7	Desalination Plant	Les Vardes Quarry (sole use)
Options that do not meet the water policy by 2040		
8	Les Vardes Quarry (dual use)	Longue Hougue South Les Vardes (10yrs)
9	Les Vardes Quarry (dual use)	Longue Hougue South Les Vardes (15yrs)
Options that do not provide a 15-year inert waste disposal site		
10	Les Vardes Quarry (sole use)	Longue Hougue South
11	Les Vardes Quarry (sole use)	Black Rock

5 Options Appraisal

5.1 Options appraisal workshops and follow-up meetings were held to consider the best combination of options for water and waste.

Dual use

5.2 Dual use of LVQ was considered as part of the appraisal process[40] but was discounted at a later stage due to the risk of contamination to the drinking water supply. No evidence was identified to demonstrate that there would be no impact on water quality for the lifetime of the reservoir. The Committee was also cognisant that no precedent had been found for a freshwater storage reservoir situated above an inert waste disposal site and considered it unlikely that customers would find it an acceptable alternative due to the risk of the contamination to drinking water and the potential increase in costs required for enhanced screening and counter-pollution measures including additional engineering and increased water treatment requirements.

5.3 With four dual-use options discounted, and Black Rock included, seven options were assessed against the following seven criteria:

- Financeability and Customer Affordability – how easily costs can be met within financing limits and their affordability to customers;
- Resilience and Reliability - how well the water policy is met, and how long a waste disposal solution would last, and the quantity of stockpiling potentially required;
- Environmental and Social Impact – the anticipated significance of the environmental and social impacts based on assessments and investigations;
- Delivery Risks – whether the option can be delivered within a 2-3 year timeframe and ease of delivery;
- Customer and Political Acceptability – the level of support the option is likely to receive both publicly and politically;
- Operational Risks – operational efficiency and regulatory compliance.

Financeability and Customer Affordability

5.4 The inert waste disposal facility has been confirmed as a pipeline project in the Major Projects Portfolio Review[41] and all waste options would potentially be funded by a loan from General Reserve repaid through gate fee income. It is anticipated that adaptive planning options for water resources would be funded through a mix of borrowing and customer bill increases.

5.5 In considering financeability, land values at completion were taken into account but not factored into calculations due to the uncertainty of land values and planning policies 30+ years in the future. Although land reclamation options are

[40] Dual use for varying lengths of time was considered as part of Options 5, 6, 8 & 9
[41] Major Projects Portfolio Review, Billet d'État V, 2025

higher cost than quarry infill, they produce land with high strategic value, the existing Longue Hougue Reclamation Site being an example of a key industrial area which has been reclaimed. LHS could similarly be zoned for industrial or commercial use, or alternatively has been identified as a potential future harbour site. Due to its location LVQ would likely be zoned as agricultural or nature reserve, as would L'Epine and Guillotin Quarries if infilled. The area of land created by the infill of LHR could have a potential future use, such as commercial or residential, but this would be subject to the suitability of the land once returned to ground level. Land at Black Rock would be reclaimed in such a way as to be able to accommodate residential use once complete and has a high strategic value, being designated for the regeneration of the Bridge area and housing, while also providing flood defences.

5.6 In order to fund the inert waste component of each option, gate fees have been increased incrementally over the last four years to a level anticipated to recover costs for developing LHS (the States' existing preferred option). This funding method could be applied to other options if selected with gate fees adjusted accordingly, while remaining cognisant of the need to keep gate fees affordable to the construction industry.

5.7 Financial modelling undertaken by Guernsey Water[42] assessed the additional cost to customers of the LVQ and desalination plans when compared to a baseline financial forecast[43]. The baseline forecast included major investment to meet new drinking water standards by 2030. In conjunction with other investment needs, this would require above-inflation bill increases before LVQ or desalination are developed. This means that Guernsey Water would already be making much of the financial surplus needed to fund one of the two plans by the time it needed to be delivered.

5.8 The actual water bill for customers in 2035 will be subject to many variables within the forecast. However, the analysis still provides a reasonable comparison of the bill implications of each option. Given that the baseline forecast already includes significant bill increases, there is a risk that either option may be unaffordable for customers, but this risk is significantly higher for the desalination plan. Therefore, the Committee is concerned about the impact on consumers of the desalination option.

[42] Based on March 2024 forecast (pre 2025 budget) with borrowing limited to a gearing of 22%
[43] Including all water and wastewater capital investment

5.9 The cost of purchasing LVQ has not been included in any of the water or inert waste options and is yet to be confirmed and subject to negotiation. The Policy & Resources Committee is under resolution to continue negotiations with landowners in relation to LVQ and Chouet Headland and bring forward its recommendations to the States[44]. The future strategic use of LVQ, once agreed by the States, will inform negotiations.

Resilience and Reliability

5.10 Option combinations were ranked by Guernsey Water on how well they met the water policy (see paragraph 3.9). Options which used LVQ and retained LHR or introduced a desalination plant were assessed as being the most resilient and reliable.

5.11 Resilience and reliability from an inert waste perspective considered the amount of stockpiling required for each option and also the duration of the site. LHR alone was ruled out as an option as it would require up to 13 years of stockpiling which surpassed the maximum capacity at Longue Hougue Reclamation Site (estimated at approximately 8 years).

5.12 Longue Hougue South and Black Rock individually would not fully meet the inert waste site duration target of 15 years, as once stockpiled material is transferred these sites would have only an estimated 12 and 9 years' capacity respectively, although if combined they would meet the target. If LHR is included as a follow-on site this extends the duration by 28 years. However, as referenced in paragraphs 4.23-4.30, there are a number of constraints relating to LHR which would have to be managed.

Environmental and Social Impact

5.13 The environmental impacts and mitigations of land reclamation at Longue Hougue South and Black Rock are expected to be similar, but this will be confirmed by the Black Rock EIA.

5.14 The SEAs for the quarries show that their use as inert waste disposal sites would have negative environmental impacts; however, these were assessed as being of low impact with mitigation measures possible. Notwithstanding this assessment, the Committee noted that the infill of the quarries would cause disruption to neighbours and that there had been opposition from the public and politicians to the proposed use of the smaller quarries in recent years due to their role as wildlife habitats and the visual amenity they contribute to their rural settings.

[44] Resolutions of States, The Island's Future Aggregate Supply, Billet d'État XIX, 2021

5.15 The construction and operation of a desalination plant could have moderate or major negative effects on biodiversity potentially affecting marine mammals and fish. The hypersaline water discharge could impact habitats, and the plant would have a significant carbon footprint both for construction and operation.

Delivery Risks

5.16 The assessment of delivery risks has been informed by independent engineering assessments and advice from Guernsey Water and Guernsey Waste, and considers how soon the solutions will be able to be delivered (within three years being optimum); whether any new permissions are required and are likely to be granted; and whether the option requires a novel delivery approach (as opposed to 'tried and tested') and has site/activity-specific challenges.

5.17 From a water perspective, LVQ options are low risk as they will follow engineering design solutions that have been delivered for other water supply schemes elsewhere and on-island. These options can draw on a wider pool of water industry contractors, including on-island contractors and existing expertise within Guernsey Water. By contrast, the desalination options bring elevated delivery risks associated with the technical nature of the membrane treatment installation. The sea water intake and brine discharge pipeline would also require specialist off-island contractors due to the challenging nature of the coastal environment.

5.18 For inert waste options, each option is considered medium risk apart from the LVQ options which are classed as low risk. The delivery risk for LHR is primarily associated with the required stockpiling capacity of 13 years exceeding the maximum capacity available at Longue Hougue Reclamation Site, meaning alternative stockpiling provision would be required.

5.19 Delivery risks for the infilling of Longue Hougue, L'Epine and Guillotin Quarries relate to the challenges of accessing the base of these sites to allow for disposal from the base up. This enables compaction of the waste material progressively as the site is filled, providing a more stable site for future development. For LHR this is a significant issue due to its size and depth. The smaller quarries have access issues, but it is expected that these could be managed. These quarries all have a risk of potential stability issues which would require close monitoring. LHR has additional delivery risks relating to the presence of gravestones and human remains which require sensitive treatment. It also has the potential need for land purchase and building demolition to provide access via a ramp, and the potential difficulty of access to install the dewatering system, which would involve scaling of cliffs, working at height, and the use of cranes to lower equipment into the base.

5.20 If LHS is to be progressed as an inert waste disposal site, the Local Planning Brief will need to be updated, and a statutory Planning Inquiry process undertaken before returning to the States for a decision. Thereafter, the construction and preparation of the facility will require approximately three years before the site can become operational. Inter-tidal and sub-tidal construction can be challenging, at least until the breakwater is completed; however, the previous reclamation scheme should provide experience of suitable engineering measures.

5.21 Delivery risks for Black Rock are expected to be of a similar nature to Longue Hougue South. Indicative timelines show that Black Rock will be able to receive inert waste within three to five years, dependant on a number of factors. Additional stockpiling in addition to permissions already received of between 6 months to two years could therefore be required during which time the rock armour breakwater would be constructed. Any additional stockpiling could potentially be offset by a reduced period for transfer to the new receiving facility. For example, if five years' stockpiling were necessary, sufficient resources could be employed to transfer this material over the course of just one year, so effectively within the same overall time scale as the current planning conditions (six years has been permitted to reinstate the site).

Customer and Political Acceptability

5.22 As well as acceptability to Islanders, this assessment criteria also considers alignment with existing States plans, policies and objectives.

5.23 Desalination options are likely to be considered unacceptable by water customers due to the scale of bill increases required to fund the plant, particularly in light of current cost of living pressures. The plant would only operate during drought years, which could also result in reputational impact if this is perceived as underutilisation of such a major investment.

5.24 Land reclamation options are likely to face some opposition due to their impact on the marine environment. The GDA has conducted stakeholder engagement (including proactive engagement specifically with environmental stakeholders) and has so far received overall support for its proposals at Black Rock. This development notably supports a number of key States' priorities which will benefit the Island particularly in the Bridge area, such as housing, regeneration of the area, and coastal flood defences.

5.25 Water-filled quarry infill is assessed as having a lesser environmental impact than land reclamation, albeit the impact is more visible and is highly likely to be opposed by nearby residents and/or businesses.

5.26 It should also be noted that following the December 2017 Inert Waste States debate, the Committee and STSB's funding request to the Policy & Resources Committee (P&RC) for EIAs for L'Epine and Guillotin Quarries was declined as the P&RC did not consider the EIAs to be good value for money as it was unlikely the smaller quarries would emerge as a preferred alternative to LHS.

5.27 The use of LVQ for water aligns with the current SLUP and IDP policies of safeguarding the quarry for this purpose and if LHR is retained it also meets the water policy providing adequate water resources in the event of drought.

Operational risks

5.28 Operational risks take into account compliance with regulation, whether approaches are within the skills and capacity of existing resources, and whether operational efficiency and efficacy are improved including optimal use of existing strategic assets.

5.29 The primary operational risks from an inert waste perspective relate to the filling of LHR and the smaller quarries due to the lack of access ramps to the bases, therefore all options including LHR have moderate risk in this area. The operational risks of the land reclamation options were assessed as being low.

5.30 Desalination has been assessed as moderate risk due to the need for extensive training of staff to manage new assets, equipment, and complex water treatment methods. Achieving the right water chemistry for mixing with stored water in reservoirs can be challenging; this creates water quality risks which increase in drought conditions as stored water levels drop and the proportion of desalinated water in reservoirs increases.

5.31 Using LVQ for water storage has negligible operational risk compared to the dual use and desalination options, involving existing Guernsey Water skills and knowledge for supplying water to and from the quarry using pumps and pipelines.

6 Preferred way forward and conclusion

6.1 Taking all the evidence into consideration, the Committee recommends using LVQ for freshwater storage and using Black Rock for inert waste disposal. If the States endorses this approach, business cases will be developed for both the water and waste options.

6.2 An indicative estimate of £38m has been given for establishing the rock armour to create the inert waste disposal site at Black Rock, subject to specialist analysis, such cost to be recovered through the gate fees over the lifetime of the site[45]. An indicative capital cost of £20m has been given for the conversion of LVQ to a water storage reservoir and associated works to meet future water requirements. This does not include the cost of the purchase of LVQ which remains subject to negotiations. It must be stressed that these are not final project budgets, but an indication of the likely scale of investment required.

6.3 An indicative 'best case' timeline has been drawn up which shows that, following the installation of the rock armour, Black Rock would be available to receive inert waste by Quarter 2, 2028. This would require a short period of additional stockpiling of approximately six months, for which further planning permission would need to be sought.

6.4 The proposed reclamation at Black Rock to create valuable land for strategic development has come at an opportune time. It has the clear advantage of supporting several strategic priorities of the States, including increased housing supply, regeneration of the Bridge area and creating coastal flood defences, and will enable inert waste to be diverted from other potential sites each with their own constraints. Although LVQ could provide a long-term inert waste disposal solution, it would remove a long-term water storage option for the Island and result in the need for a desalination plant which would be costly and have significant negative environmental impacts.

7 Compliance with Rule 4

7.1 Rule 4 of the Rules of Procedure of the States of Deliberation and their Committees sets out the information which must be included in, or appended to, motions laid before the States.

7.2 In accordance with Rule 4(1):

a) The proposition contributes to the States' objectives and policy plans, in particular the Government Work Plan Strategic Portfolio on housing, infrastructure and the economy, by helping to ensure that the Island's infrastructure is fit for purpose and that it does not restrict essential development. It also support the States' decision to endorse the Guernsey Development Agency's strategic vision for the Bridge.

[45] This compares to an estimate of £35m for the Future Inert Waste Facility in the Funding & Investment Plan Update, Billet d'État XVII, 2023, Appendix 5

b) In preparing the proposition, consultation has been undertaken with the Policy & Resources Committee, the States' Trading Supervisory Board, and the Guernsey Development Agency.

c) The proposition has been submitted to His Majesty's Procureur for advice on any legal or constitutional implications.

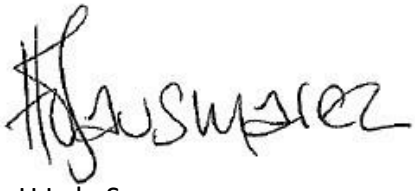
d) The financial implications to the States of carrying the proposal into effect are the cost of acquiring Les Vardes Quarry and its conversion to a freshwater storage reservoir and the costs associated with inert waste disposal to reclaim land at Black Rock. Indicative cost estimates are provided in paragraph 6.2.

7.3 In accordance with Rule 4(2):

a) The proposition relates to the Committee's responsibilities to develop and implement policies relating to infrastructure, waste and water.

b) The propositions have the unanimous support of the Committee.

Yours faithfully



H L de Sausmarez
President

A Gabriel
Vice President

A Cameron
S Fairclough
A Matthews

GLOSSARY

BPEOs - Best Practical Environmental Options; defined as the options that provide the most benefits or the least damage to the environment, as a whole, at acceptable cost, in the long term as well as in the short term.

Constrained reserves – the stone which remains at LVQ under the processing plant. Ronez intends to extract this stone after the plant is removed and a new one is installed at Chouet Headland.

Dual use – the use of LVQ for inert waste in the short-term, followed by water in the long term

GDA – Guernsey Development Agency

LHR – Longue Hougue Reservoir

LHS – Longue Hougue South

LVQ – Les Vardes Quarry

Unconstrained reserves – the stone which has been extracted through operations at LVQ

WDA – Waste Disposal Authority

WRDMP – Water Resource and Drought Management Plan

APPENDICES

Appendix 1	Water Resources and Drought Management Plan 2025-2080 Summary
Appendix 2	States' Trading Supervisory Board - Consultation letter
Appendix 3	Guernsey Development Agency - Consultation letter
Appendix 4	Longlist of 19 Options
Appendix 5	Black Rock Inert Waste Disposal – Estimated Timeline
Appendix 6	Timelines of Shortlisted Options

APPENDIX 1

Water Resources and Drought Management Plan 2025-2080 Summary

APPENDIX 2

States' Trading Supervisory Board – Consultation Letter

APPENDIX 3

Guernsey Development Agency – Consultation Letter

APPENDIX 4

Longlist of 19 Potential Options for Both Inert Waste and Water Storage Requirements

Option No.	Assets used for water storage	Assets used for inert waste disposal
1	Les Vardes Quarry (sole use)	Longue Hougue Reservoir
2	Les Vardes Quarry (sole use)	Guillotin Quarry - L'Epine Quarry - Longue Hougue Reservoir
3	Les Vardes Quarry (sole use)	Longue Hougue South - Longue Hougue Reservoir
4	Les Vardes Quarry (dual use)	Les Vardes Quarry (5yrs) – stockpiling – Longue Hougue Reservoir
5	Les Vardes Quarry (dual use)	Guillotin – Les Vardes Quarry (5 yrs) – Longue Hougue Reservoir
6	Les Vardes Quarry (dual use)	Les Vardes Quarry (10yrs) – Longue Hougue Reservoir
7	Les Vardes Quarry (dual use)	Guillotine - Les Vardes Quarry (10yrs) – Longue Hougue Reservoir
8	Les Vardes Quarry (dual use)	Longue Hougue South (in part) – Les Vardes (10yrs) – Longue Hougue South (complete)
9	Les Vardes Quarry (dual use)	Les Vardes Quarry (15yrs) – Longue Hougue Reservoir
10	Les Vardes Quarry (dual use)	Longue Hougue South (in part) – Les Vardes (15yrs) – Longue Hougue South (complete)
11	Desalination Plant	Les Vardes Quarry (sole use)
Options including use of LVQ before 2033		
12	Les Vardes Quarry (dual use)	Les Vardes Quarry ('clean material only[4]' 3.5yrs) – stockpiling – Longue Hougue Reservoir
13	Les Vardes Quarry (dual use)	Les Vardes Quarry ('clean material only' 5yrs) – stockpiling – Longue Hougue Reservoir
14	Les Vardes Quarry (dual use)	Les Vardes Quarry (5yrs) – stockpiling – Longue Hougue Reservoir
15	Les Vardes Quarry (dual use)	Les Vardes Quarry (10yrs) – stockpiling – Longue Hougue Reservoir
16	Les Vardes Quarry (dual use)	Les Vardes Quarry (5yrs) – stockpiling – Longue Hougue South
17	Les Vardes Quarry (dual use)	Les Vardes Quarry (10yrs) – Longue Hougue South

18	Desalination Plant	Les Vardes Quarry (sole use)
19	Les Vardes Quarry (sole use)	Longue Hougue South (11 yrs disposal)

APPENDIX 5

Black Rock Timeline Estimate

	2025				2026				2027				2028				2029			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Estimated timeline	EIA - PPP					PP/Design/Proc			Rock armour construction - 18 months					IW disposal and removal of stockpile - 2028-2037						
Stockpiling permission	Planning permission granted for three years commencing Q4 2024																			

Notes

Requires an additional 6 months of stockpiling. The stockpile may be able to be moved to or close to the Black Rock site during the rock armour construction phase

This timeline has been produced on the basis that a Local Planning Brief will not be required

Key:

PP - Planning permission

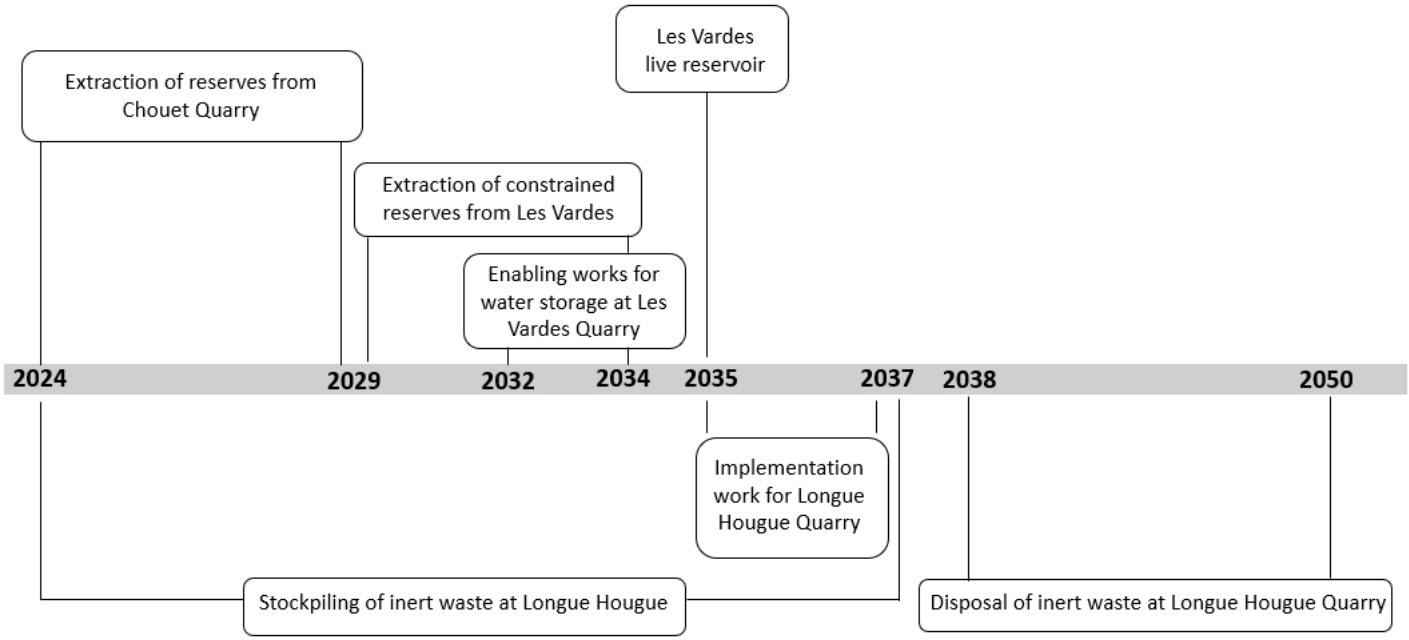
PPP - Pre-planning permission

Proc - Procurement

IW - Inert waste

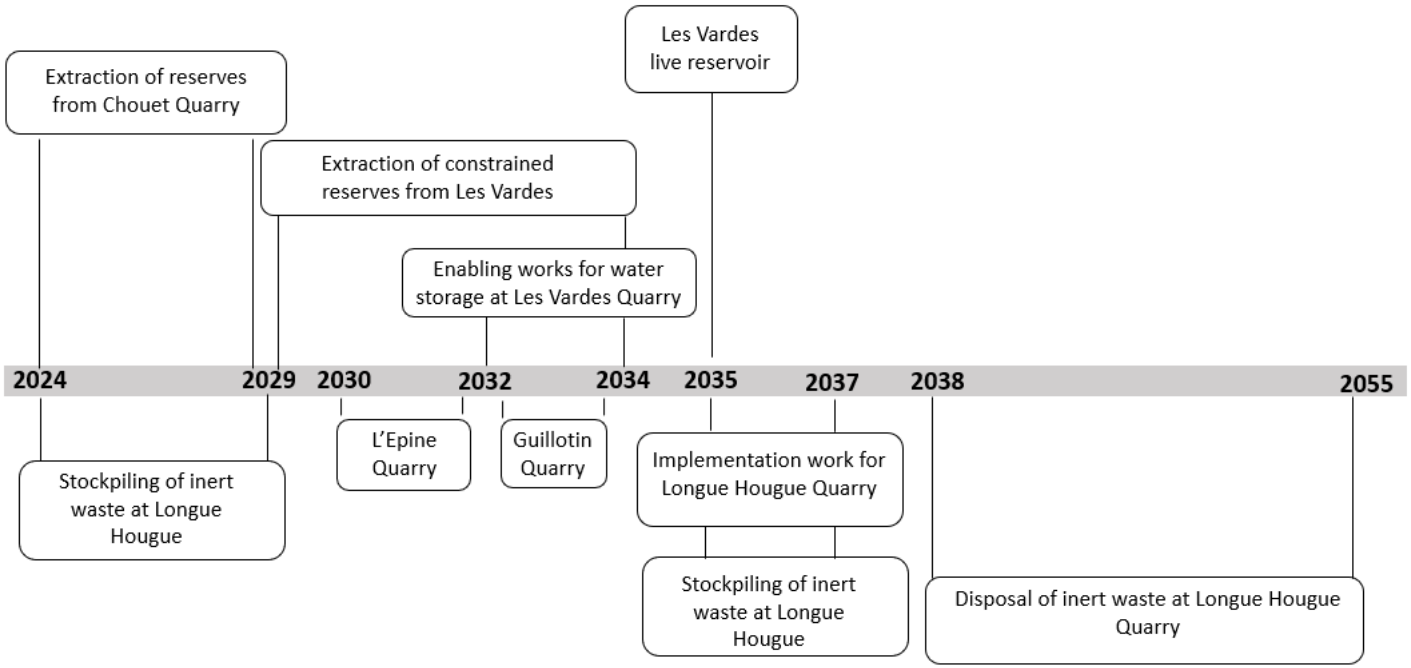
Shortlisted Option Timelines[46]

Option 1: Water - Les Vardes Quarry, Inert Waste - Longue Hougue Quarry

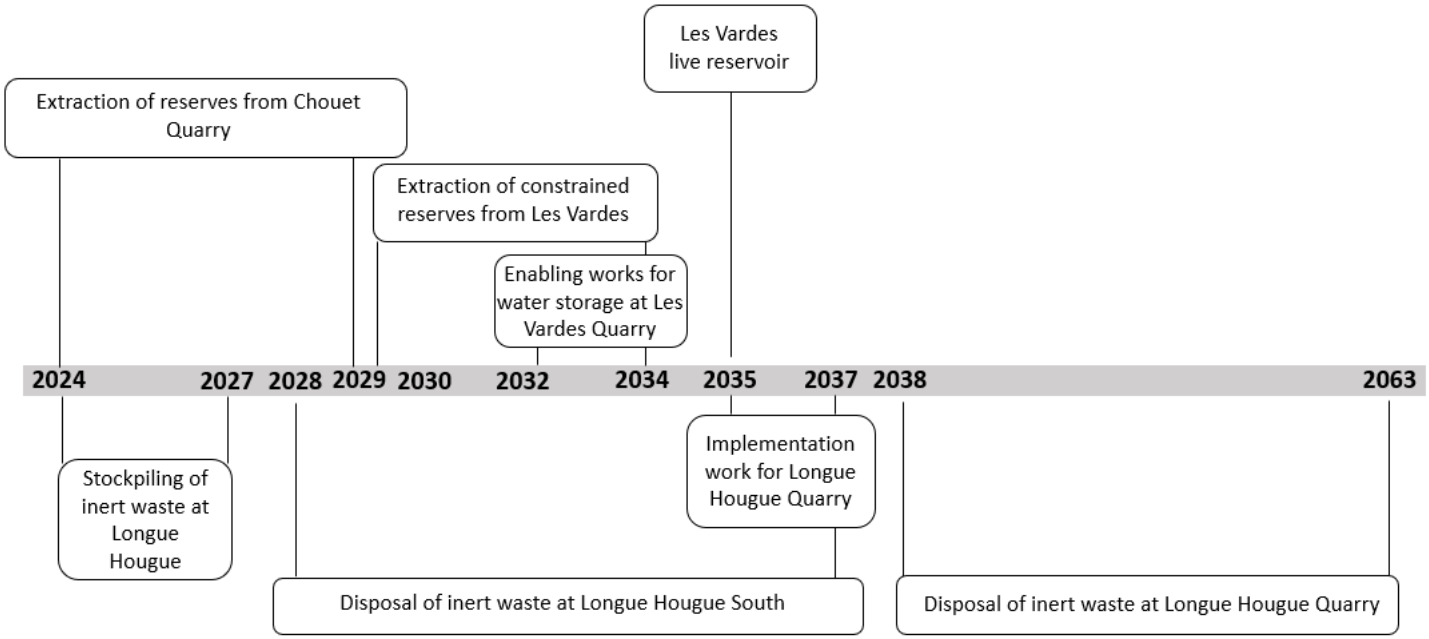


[46] Options 5, 6, 8 & 9 were dual-use options so have not been included

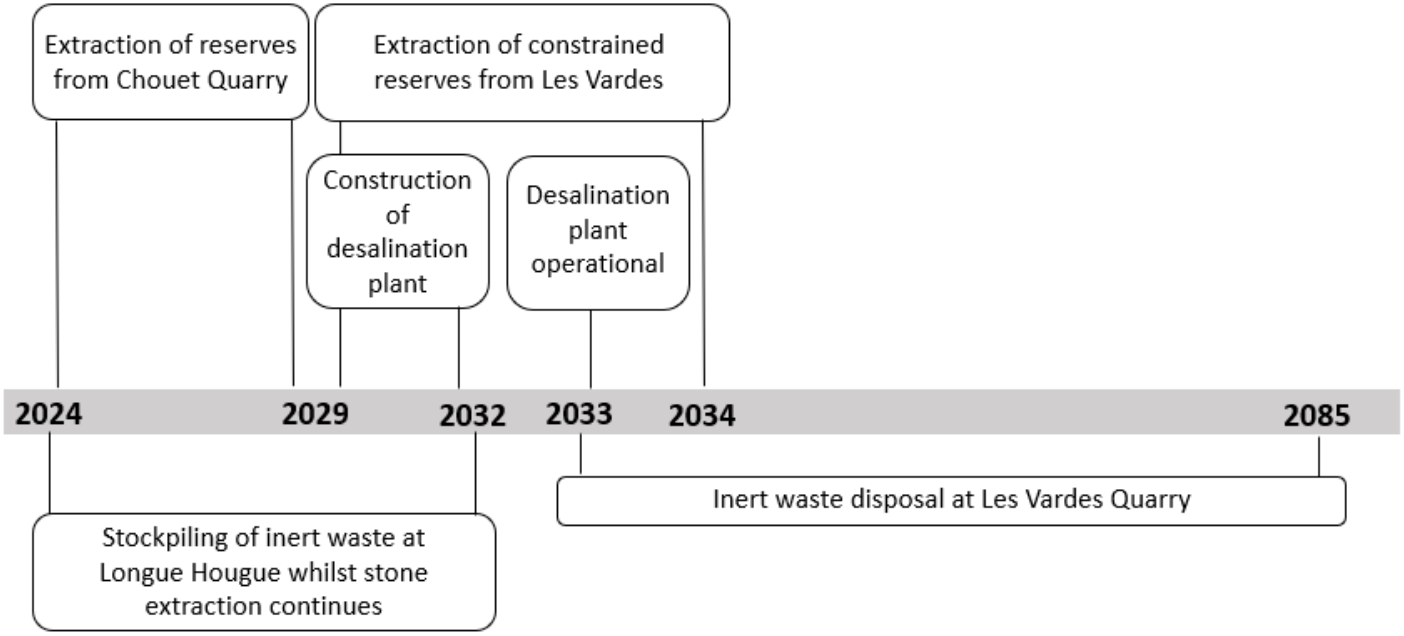
Option 2: Water - Les Vardes Quarry, Waste – L'Epine Quarry, Guillotin Quarry, Longue Hougue Quarry



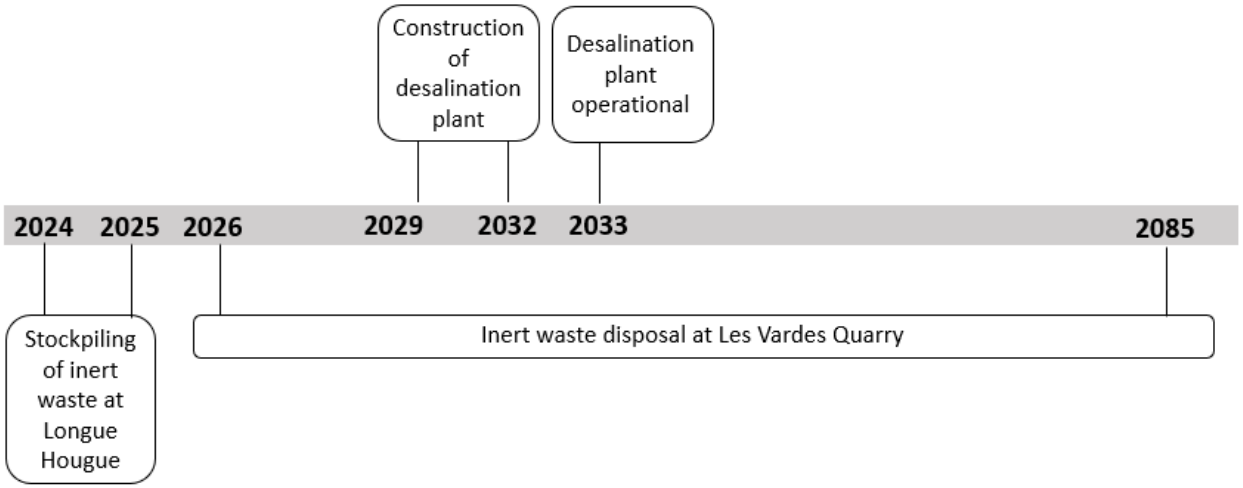
Option 3: Water - Les Vardes Quarry, Waste – Longue Hougue South, Longue Hougue Quarry



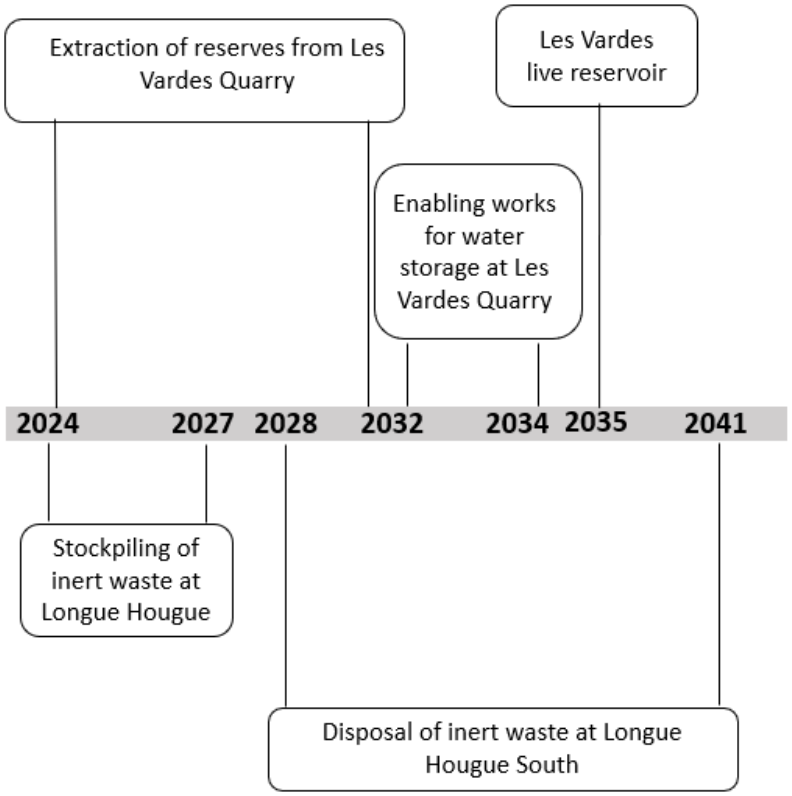
Option 4: Water – Desalination plant, Waste – Les Vardes Quarry



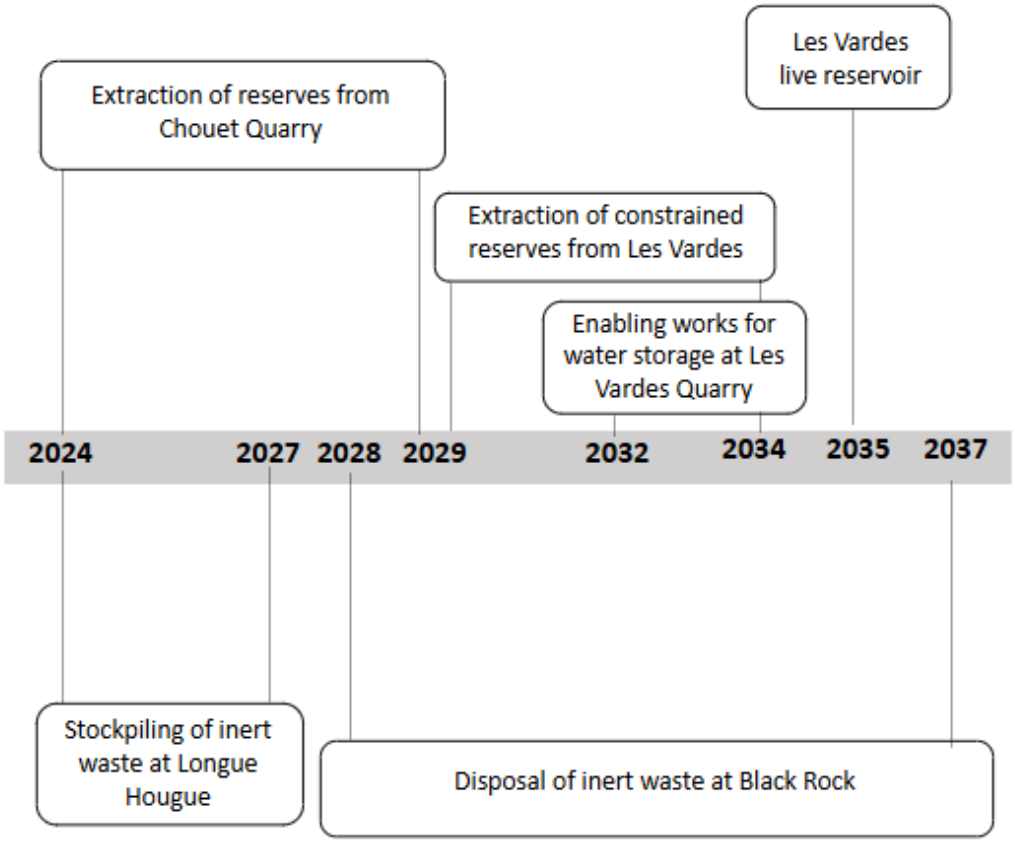
Option 7: Water – Desalination plant, Waste – Les Vardes Quarry (before constrained reserves extracted)



Option 10: Water - Les Vardes Quarry, Inert Waste - Longue Hougue South



Option 11: Water - Les Vardes Quarry, Inert Waste – Black Rock



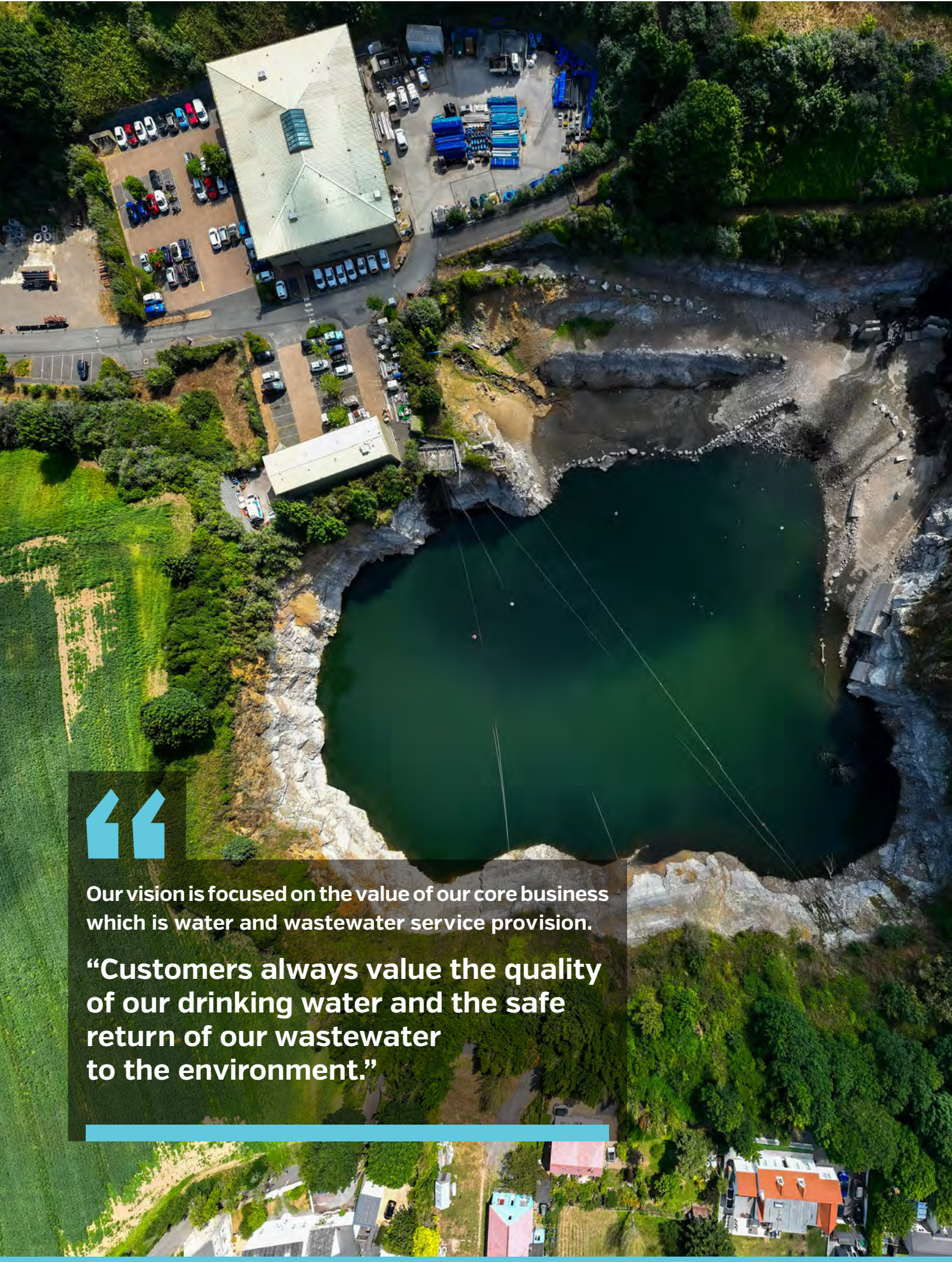
Water Resources and Drought Management Plan 2025-2080 Summary

States of Guernsey Trading Group

GuernseyWater

CONTENTS

OUR OUTCOMES



Our vision is focused on the value of our core business which is water and wastewater service provision.

“Customers always value the quality of our drinking water and the safe return of our wastewater to the environment.”

Summary

Guernsey Water is updating the Water Resources and Drought Management Plan ("The Plan") that was published in 2018. The review was initiated to help inform the Committee for the Environment & Infrastructure's (C*ft*E&I) recommendations on the future strategic use of Les Vardes Quarry. This interim summary provides an overview of the updated Plan.

The Plan covers the period from 2025 to 2080 and considers the adequacy of available water supplies to meet demand during a severe drought during this time. The reliability standard used aligns with current water industry practice in England and assumes that by 2040 the island must be resilient to cope with worse droughts than have occurred in the past.

Population growth is forecast to increase daily demand for water from an average of 13.5 million litres to 14.4 million litres by 2040. Changing weather patterns, due to climate change, and water quality risks could also negatively impact the availability of reliable water supplies over this time. This combination of factors is likely to mean current water storage resources will be inadequate in meeting demand during severe drought conditions in future. Increased demand, due to population growth is the main contributor to the anticipated shortfall.

The Plan considers several adaptive plans to address the projected shortfall. Common to all of these is a package of demand management measures, such as compulsory water metering. Temporary restrictions when reserves are low, such as hosepipe and sprinkler bans, would also help reduce demand at critical times. However, it is anticipated these measures will not be sufficient to offset fully the anticipated supply shortfall during a severe drought. The review concludes sufficient resilience can only be achieved by the development of a new water resource.

Two feasible options for this have been identified. These are:-

- Conversion of Les Vardes Quarry to a water storage reservoir;
- Construction of a sea water desalination plant.

Either of these new water resources, combined with demand management, would provide a secure, resilient water supply for future generations.

From a water strategy perspective, developing Les Vardes Quarry and retaining Longue Hougue Reservoir is considered the lowest cost, least risk and lowest impact of all the adaptive plan options considered. The C*ft*E&I must balance this against consideration of future requirements for management of inert waste. That wider consideration is set out in a policy letter on the future strategic use of Les Vardes Quarry[1] to be debated by the States Assembly. The outcome of that debate will provide the direction required to finalise the updated Plan.

Introduction

Our water and wastewater systems are adapted to climate change and have sufficient capacity to meet the future needs of our island.

- **Develop long-term strategies for water resources and drainage**
- **Invest in the resilience of our critical assets**
- **Plan to be ready for emergencies**

Guernsey Water is responsible for providing secure, high quality and reliable water supplies to around 23,000 households and 3,100 commercial customers across the island. This relies on an integrated water resource system comprising stream intakes, raw water storage facilities, treatment works and treated water storage reservoirs, which together supply customers through a network of distribution pipes.

The review of the Plan identifies:

- How demand for water and water supply could change between now and 2080;
- How adequate water could be provided to meet demand in drought conditions;
- Risks and uncertainties, such as climate and population change, which may affect the balance between demand for water and the reliable supplies available in a drought;
- Options to address the supply demand shortfall between now and 2080.

The conclusions of this review will help inform the C*ft*E&I's recommendations in relation to the future use of Les Vardes Quarry, which is one of the options identified for future water resource improvement.

Les Vardes is a privately owned quarry that remains in active use. Under current States policy, the site is "safeguarded" for future water storage once stone extraction ceases. This does not guarantee it will be used as a reservoir, but any form of development that may compromise its future use for this purpose is not currently permitted. However, there is provision within the policy for the States to prioritise its use for other strategically essential development, besides water storage, should that case be made.

Risks and uncertainties, such as climate and population change, may affect the balance between demand for water and the reliable supplies available in a drought

Future Supply Demand Balance Projections

Water Supply Reliability Standards

The Plan considers the balance between reliable water supplies and the demand for water during a severe drought.

The water reliability standard applied when the Plan was previously updated was based on avoiding a repeat of the worst recorded drought in Guernsey. An improved standard has now been adopted, consistent with water companies in England[2]. This reflects concerns relating to climate change, population growth, and the severe impact of water restrictions on people, the environment and economy.

This will ensure that by 2040, the island will be resilient to more severe droughts than have occurred in the past. This is important because climate change is predicted to cause hotter drier summers that result in severe drought becoming more likely during the period the Plan covers.

In practice, the improved standard requires Guernsey Water to be able to supply an additional 0.8 million litres of water per day during severe drought, compared to the previous reliability standard. In itself, this does not require a new water resource for Guernsey.

Guernsey Water's Plan will ensure that by 2040, the island will be resilient to more severe droughts than have occurred in the past

The Plan identifies a range of demand management measures, such as compulsory metering, which can meet this requirement. The main factor driving the need for a new water resource is projected population growth[3], which for planning future infrastructure and service provision assumes +300 net migration per year over the next 30 years.

Water Quality Risks

In addition to climate and population change, the plan must also consider other risks, such as the effect of pollution in some catchments, including from pesticides and other chemicals. Pollution levels are continually monitored, and water from these catchments is not used if levels exceed that required to meet stringent drinking water quality standards. Currently, this equates to a reduction in supply capacity of up to 2.3 million litres per day.

By 2030, water companies in England will have to comply with more stringent standards for PFAS; a range of chemicals that persist in the water environment for many decades. Guernsey Water is planning to do the same, which will require major investment in water treatment. This will increase reliable supplies, which is accounted for in the Plan's supply demand balance projections.

Climate Change

The Plan's updated assessment indicates that by 2040 a total of 10.6 million litres per day of reliable water supplies would be available in a severe drought. However there remains considerable uncertainty regarding future impacts of climate change on water resources. For example, it is not known how hot and dry summers may become; or how warmer and wetter winters may be. However, there is clear evidence that these effects are already being experienced[4].

The main factor driving the need for a new water resource is projected population growth

All 10 of the warmest years on record in the UK have occurred since 2000, along with five of the wettest years. It is estimated that climate change could reduce the reliable supply to 9.9 million litres per day by 2080 (Figure 1).

This can be alleviated by additional reservoir storage, allowing more water to be captured during wetter winters to reduce the risk of water use restrictions caused by drought during drier summers.

Population Change and Water Efficiency

An important factor in the supply demand balance is how many people will be living in Guernsey over the next 55 years. Guernsey Water considered several projections of future population to understand how this could affect demand for water.

The updated Plan assumes net migration consistent with the population and immigration policy adopted by the States of Guernsey for future infrastructure planning. This is projected to increase population from 63,155 in 2021 to 72,700 by 2080. This would increase overall average daily demand for water in severe drought conditions from 13.5 million litres in 2025 to 14.4 million litres by 2040 (Figure 1).

From 2040, the demand projection shows a small, continual reduction to 13.7 million litres by 2080. This is due to assumed improvements in water efficiency, linked to increasingly efficient domestic appliances and newer housing stock.

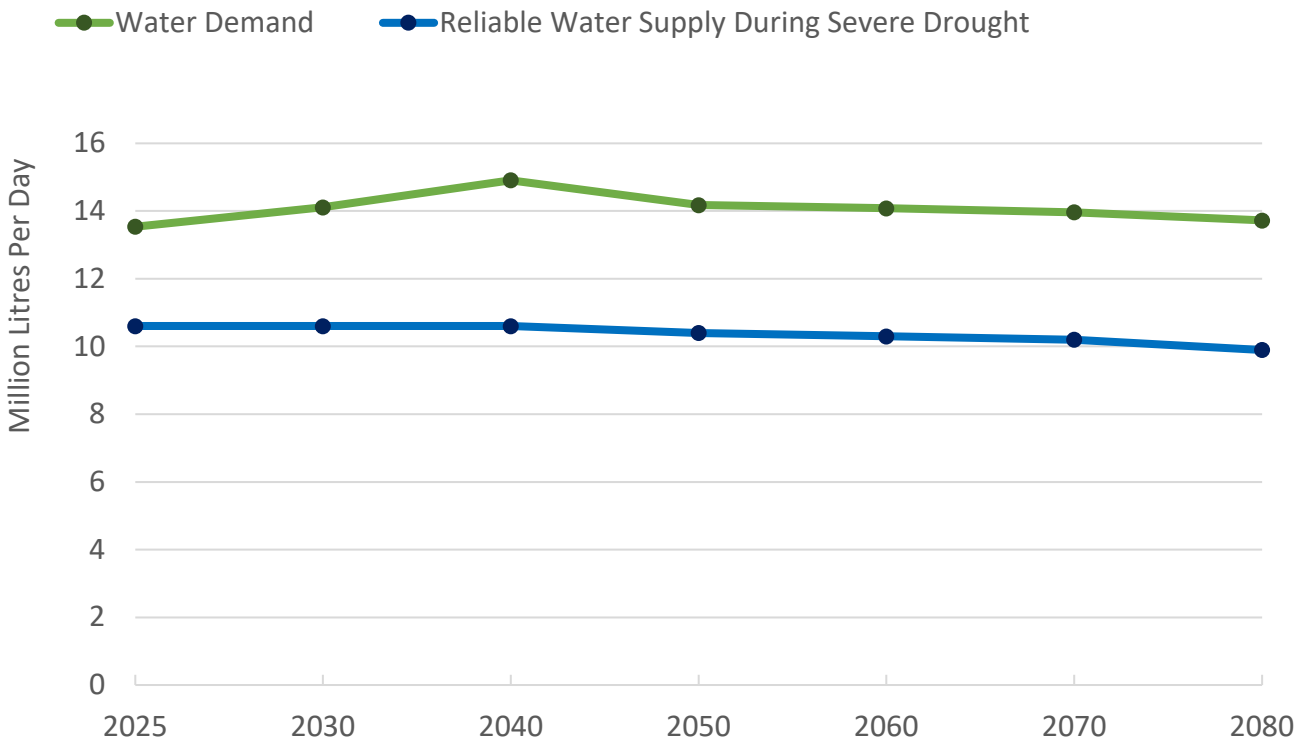
Additional reservoir storage, allows more water to be captured during wetter winters to reduce the risk of water use restrictions caused by drought during drier summers.

Supply Demand Shortfall

Figure 1 shows the anticipated water supply capacity and demand based on the projections detailed above. This indicates a daily supply shortfall across the whole planning period in a severe drought – rising from 2.9 million litres in 2025 to a peak of 4.3 million litres by 2040 – reflecting growth in demand. This then decreases slightly to 3.8 million litres from 2050 onwards.

This means that, without intervention, temporary rationing of essential supplies would be necessary in a severe drought. Water would have to be switched off to different parts of the island on a rotational basis to prevent reservoirs from completely emptying. This would be very challenging for the island and is considered an unacceptable risk due to the severe implications for public health and the economy. Therefore, Guernsey Water is planning to avoid the use of water rationing, which should only be required under the most extreme of scenarios that are beyond current drought planning standards.

Figure 1. Future demand and reliable water supply projections in severe drought conditions.



Adaptive Planning Approach

The Plan adopts an adaptive planning approach. It considers the changing risks at key milestones up to 2080, alongside the lead times required to implement different demand management and water resource options needed to maintain supply reliability. This provides strategic direction rather than a programme of work to be implemented at specific dates, which will be developed over time as the balance between available supply and demand changes.

To develop the Plan, various potential demand management and water resource scenarios have been considered. These were assessed against a range of criteria, including cost, reliability, environmental effects, and operational and delivery risks. Those that scored highest have been included in adaptive plan options.

The Plan will be reviewed every five years, or if there is material change to the assumptions behind it.

Demand Management

Detailed desktop work has been conducted to assess a wide range of technically feasible options to address the anticipated supply shortfall.

Common to all these adaptive plans is a package of demand management measures, including compulsory water metering and additional water efficiency awareness activities. These could contribute 1 million litres per day towards reducing the supply shortfall.

Further temporary measures could also be applied to reduce the supply demand shortfall during critical periods, including:

- Customer water efficiency campaign: ask customers to voluntarily reduce non-essential water use, such as garden watering and car washing;
- Temporary non-essential water use bans: formal restrictions on the use of hosepipes and sprinklers;
- Drought orders: further formal restrictions on non-essential use.

The remaining shortfall can only be addressed by the development of a new water resource.

New Water Resource Options

New water resource options were considered for inclusion in the adaptive plans to address the residual supply shortfall. Two feasible options emerged:

Conversion of Les Vardes Quarry to a Water Storage Reservoir

Converting Les Vardes Quarry could increase total reservoir storage capacity, providing an additional 2.9 million litres of reliable water supply per day in a severe drought. This could feasibly be delivered by around 2035, allowing time for full extraction of stone reserves to maximise storage capacity, and for completion of engineering works to prepare the quarry for storing water. New water pipelines could be installed in advance so the new reservoir could be connected as soon as the engineering works are complete.

Temporary measures could also be applied to reduce the supply demand shortfall during critical periods.

Construction of a Sea Water Desalination Plant

A sea water desalination plant near the coast at Longue Hougue could provide up to 5 million litres of reliable water supply in a severe drought. This could feasibly be delivered by around 2031, allowing time for construction of the sea water intake and pipeline, desalination works and new pipelines to take the desalinated water into a nearby reservoir, for storage in the usual way before being treated.

Blending with stored water is necessary because without significant investment in further treatment, the desalinated water would not be suitable for drinking.

Combined with demand management measures, either of these new water resources, would provide a secure, resilient water supply for future generations of islanders.

Water and Waste Options

The Plan has considered the potential for dual use of Les Vardes Quarry, combining both inert waste disposal and water storage, as well as the release of the existing Longue Hougue Reservoir for inert waste once the additional water storage became available.

Dual Use of Les Vardes Quarry

Two main issues were identified:

- Known and yet to be identified water quality risks that would extend beyond the life of any engineered solution to separate water from waste;
- Converting a waste facility into a reservoir would undermine trust in the public water supply.

No precedent could be found for converting a waste disposal facility into a reservoir, so no standards could be found to inform how to develop this option in a way that would be safe for the public water supply. Consideration was given to capping the waste material and lining the reservoir to prevent groundwater ingress. However, none of these options had a satisfactory design life given that the reservoir could be expected to last indefinitely.

Whilst strict quality controls and environmental monitoring may ensure only inert waste was accepted for disposal, this waste would not be inert from a drinking water quality perspective. Building materials contain chemicals that provide weatherproofing, stain resistance and flame retardant properties for example. There is also a risk they contain chemicals that are not currently subject to drinking water quality standards but will be in future.

The dual use of Les Vardes Quarry was therefore discounted by the C*ft*E&I in light of these concerns about the potential impact of inert waste on drinking water quality, as well as the reduction in capacity caused by partial filling, and the strategic value of other inert waste disposal options.

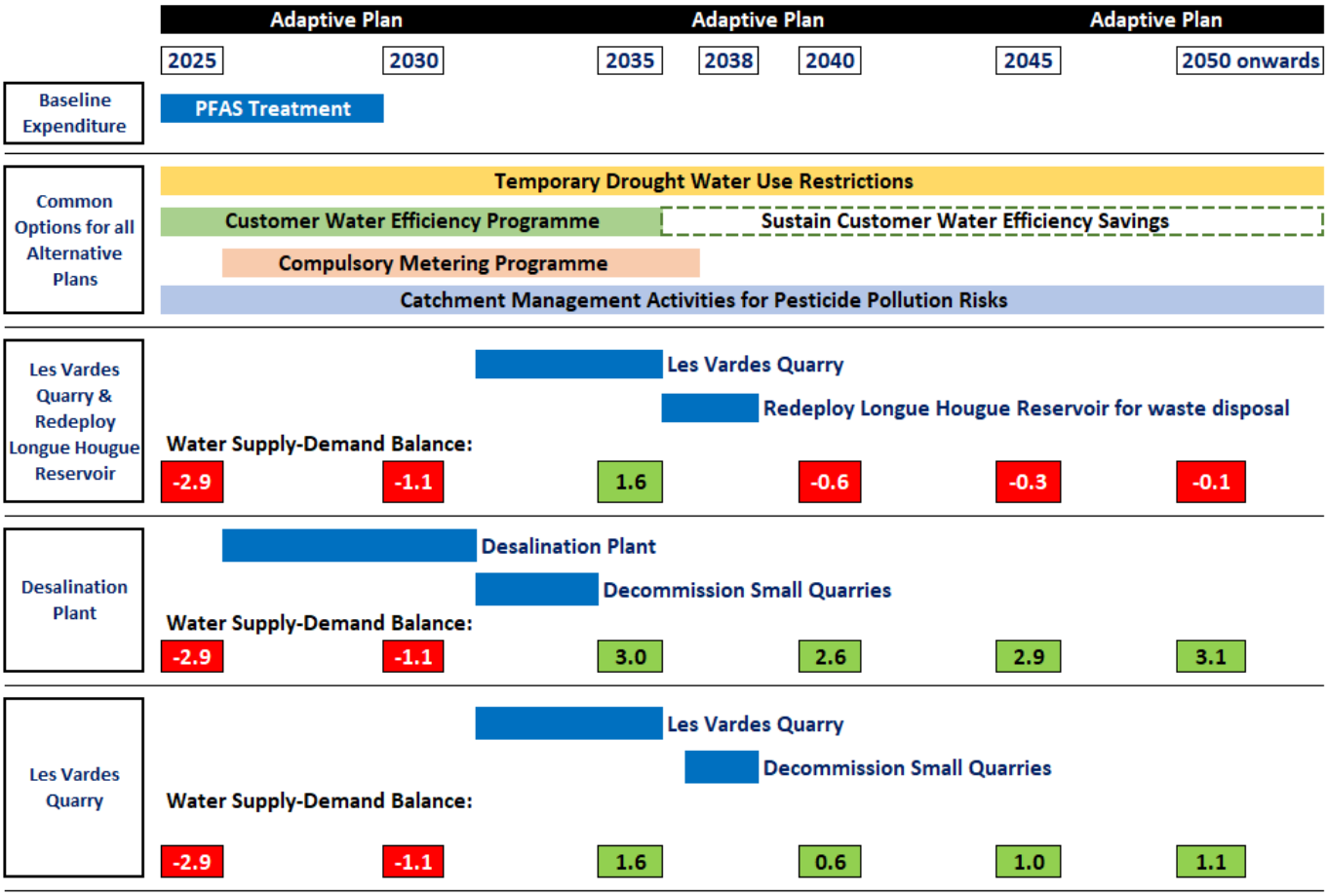
No precedent could be found for converting a waste disposal facility into a reservoir, so no standards could be found to inform how to develop this option in a way that would be safe for the public water supply.

Release of Longue Hougue Reservoir

Longue Hougue Reservoir is the island's largest reservoir, providing 27% of current storage capacity. It could only be released if Les Vardes Quarry were developed first to offset this loss. This would result in a net increase in reliable water supplies in a drought of 1.1 million litres per day. That would not fully eliminate the supply demand shortfall, with a small deficit of around 0.1 million litres per day remaining in 2080 (Figure 2). This would not leave any headroom to accommodate population growth that is above that allowed for in current States of Guernsey policy.

Longue Hougue Reservoir is the island's largest reservoir, providing 27% of current storage capacity. It could only be released if Les Vardes Quarry were developed first to offset this loss.

Figure 2. Supply demand benefit of adaptive plan options.



Evaluating the Adaptive Plans

Each of the adaptive plan options has been assessed using a multi-criteria evaluation approach (Figure 3. The different assessment criteria are not weighted and are evaluated according to an assessment scale ranging from positive to major adverse effects.

This evaluation indicates:

- Whole-life cost is highest for the desalination plan and there are significant concerns relating to the affordability of this plan for customers. There are also environmental concerns relating to construction and operation of the desalination plant, such as the potential impact of the associated brine discharge. Desktop research suggests that this can be mitigated, but at additional cost.
- Only the desalination plan would be resilient to a major outage such as the loss of Longue Hougue Reservoir (capacity 1.9 million litres per day) for an extended period due to contamination.
- Redeployment of Longue Hougue reservoir has the next highest whole-life cost. This is due to the need to redirect pipework from Guernsey Water's largest water collection station to a new Les Vardes reservoir. Water customers would not benefit from this work, so there is strong case for them not being required to fund it. It also does not fully address the shortfall over the planning period; so it is the least favourable plan for water supply reliability. This plan would not allow for the decommissioning of several smaller reservoirs which is a feature of other Les Vardes and desalination adaptive plans, to realise savings of £240k a year in operating costs.
- From a water strategy perspective, developing a new Les Vardes Reservoir while retaining Longue Hougue Reservoir has the lowest cost, least amount of risk, and lowest impact of all the options considered.

Figure 3. Evaluation summary of the adaptive plan options.

Key

Positive effects	Negligible impact/risks	Low impact/risks	Medium impact/risks	High impact/risks

Adaptive Plan	Finance-ability	Affordability	Resilience & Reliability	Income Impact *(if no change to charges)*	Environmental & Social	Delivery Risks	Customer & Political Acceptability	Operational Risks
Les Vardes Quarry and redeploy Longue Hougue Reservoir, with demand management & catchment management for pesticide risks								
Desalination plant with demand management & catchment management for pesticide risks								
Les Vardes Quarry with demand management & catchment management for pesticide risks								

References

- [1] Policy Letter - Future strategic use of Les Vardes quarry
- [2] National Infrastructure Commission (2018) Preparing for a drier future: England's water infrastructure needs; Environment Agency (2023) Water Resources Planning Guideline; National Infrastructure Commission (2023) Second National Infrastructure Assessment.
- [3] Population & Immigration Policy Review - States of Guernsey
- [4] State of the UK Climate 2023 - Kendon - 2024 - International Journal of Climatology - Wiley Online Library

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Deputy Lindsay de Sausmarez
President
Committee *for the* Environment & Infrastructure
Sir Charles Frossard House
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19th March 2025

Dear Deputy de Sausmarez

Future Inert Waste Disposal and Water Resource Management including the Future Use of Les Vardes Quarry

Thank you for consulting the States' Trading Supervisory Board (STSB) on the policy letter, and for the prior engagement with both Guernsey Water and Guernsey Waste to help inform your proposals.

The STSB fully supports the Committee's recommendation that Les Vardes Quarry should be developed to provide a new water resource for the island, to ensure the island's long-term requirements for reliable water supply can be met. The Committee is right to rule out potential dual use of the quarry, combining both water storage and inert waste disposal, as that presents unacceptable risk of future contamination, and would therefore undermine the security of this essential supply and, importantly, public confidence.

The Board also fully supports the proposal for a land reclamation project at Black Rock, to provide a new facility for disposal of inert waste. Regrettably, as the propositions acknowledge, the ongoing delay in delivery of a new inert waste site is likely to necessitate continued stockpiling of material at Longue Hougue beyond the current planning permission. Guernsey Waste will need to work with the Development & Planning Authority, at the appropriate time, to facilitate this until the new disposal site is available.

We hope any additional requirement for stockpiling can be kept to a minimum. The Board will therefore work with the Guernsey Development Agency as necessary to ensure a new land reclamation site at Black Rock can be delivered as soon as possible, subject of course to meeting all planning and regulatory requirements. The Board is making a submission for the inclusion of the project in the next Capital Portfolio (covering 2026 to 2029). We may also need to engage with the Policy & Resources Committee if a requirement is identified

for funding for any initial stages of the project, which can avoid any unnecessary delay to delivery.

While funding is being sought from the Capital Portfolio, unlike most other projects within the Portfolio any new inert waste site will have a direct income stream. It has always been the intention, as the policy letter states, for the capital cost to be recovered through gate fees over the lifetime of the site. We believe that remains the States agreed policy, and gate fees have now been set accordingly at the level required to meet the anticipated capital cost required for the next site.

It is therefore important to note that gate fees are now being received for material currently being stockpiled at Longue Hougue, which will be transferred to the new site when that becomes available. Under the funding arrangement agreed by the States in 2020, any trading deficit incurred by Guernsey Waste is being met from General Revenue. Since then, however, income from inert waste charges has effectively offset this funding requirement. The gate fee income that has been received for material that is currently stockpiled, and for any material that subsequently requires stockpiling, will need to be allocated towards funding the future capital investment requirement for a new site, to avoid further increases in charges beyond their current levels.

Yours sincerely

Deputy P J Roffey
President
States' Trading Supervisory Board

Guernsey Development Agency

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21 March 2025

Dear Deputy de Sausmarez

Guernsey Development Agency Letter of Comment on Future Inert Waste Disposal and Water Resource Management Including the Future Strategic Use of Les Vardes Quarry **Policy Letter**

The Guernsey Development Agency ('GDA') thanks the Committee *for the* Environment & Infrastructure ('the Committee') for providing the opportunity to review and comment on the draft policy letter.

The GDA welcomes the proposed identification of Black Rock as the preferred way forward for the next inert waste disposal site, subject to obtaining the necessary permissions. As you will be aware, the reclamation of Black Rock was identified as a critical element of the GDA's strategic vision for the Bridge, which was endorsed by the States of Deliberation in December 2024.

1. It is anticipated that the Black Rock site will be available to commence the disposal of inert waste during 2028. The GDA is working closely with Guernsey Waste and the Development & Planning Authority to ensure the site is operational in an expeditious manner in order to minimise the requirement for stockpiling of inert waste with its associated costs.
2. The real and positive benefit of Black Rock as the next inert waste disposal site is that disposal of inert waste in this location provides land and infrastructure with considerable strategic benefit. The most significant benefits realised by this proposal are:
   (a) The reclamation of Black Rock represents a significant economic opportunity for the Island. The land reclaimed at Black Rock will enable the delivery of much needed housing. As set out in the strategic vision for the Bridge, the GDA envisages this site becoming integrated with the Bridge and which at an early

stage will provide an enhanced public realm including footpaths and cycleways by the waters edge, connecting Bordeaux with the Bridge.

(b) The land reclaimed at Black Rock will effectively provide a major part of new long-term coastal flood defence infrastructure which is required to enable and protect the proposed development of the Bridge and the housing developments proposed along the Braye du Valle as well as existing housing, businesses and infrastructure.

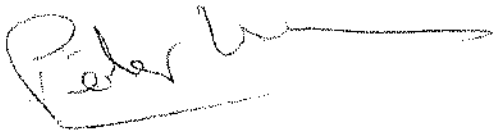
3. Whilst detailed costing for the proposal is yet to be confirmed, initial analysis has identified that the cost of establishing Black Rock as an inert waste disposal site is expected to be recovered through tipping fees across the site's 12-year fill time. As such, the Black Rock proposal will provide additional developable land with high economic and social value, as well as a significant proportion of critical future flood defence for the Bridge and surrounding areas, at little to no cost to the States of Guernsey.
4. The Black Rock proposal effectively converts inert waste from a liability into an asset for the benefit of the Island.

The GDA intends to continue to engage with and work constructively with Guernsey Waste to design and deliver the reclaimed land to an agreed programme. It is proposed that Guernsey Waste will continue to control and monitor the disposal of inert waste at Black Rock as presently is the case at Longue Hougue.

The GDA will also continue to work closely with Guernsey Waste in identifying and developing proposals for development in order to ensure that future inert waste is used to increase economic opportunities elsewhere.

Accordingly, the GDA supports this policy letter in relation to the designation of Black Rock as the preferred way forward for the next inert waste disposal site.

Yours sincerel



Peter Watson
Chair
Guernsey Development Agency

Committee *for the* Environment & Infrastructure

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24th March 2025

THE STATES OF DELIBERATION
of the
ISLAND OF GUERNSEY

COMMITTEE *FOR THE* ENVIRONMENT & INFRASTRUCTURE

FUTURE INERT WASTE DISPOSAL AND WATER RESOURCE MANAGEMENT INCLUDING THE FUTURE STRATEGIC USE OF LES VARDES QUARRY

Dear Sir,

Preferred date for consideration by the States of Deliberation

In accordance with Rule 4(3) of the Rules of Procedure of the States of Deliberation and their Committees, the Committee *for the* Environment & Infrastructure requests that the policy letter titled 'Future Inert Waste Disposal and Water Resource Management including the Future Strategic Use of Les Vardes Quarry' be considered at the States' meeting to be held on 30th April 2025.

There is urgency to progress the establishment of the next inert waste disposal site as the existing site is full and planning permission to stockpile waste is currently limited to three years. There is also urgency for the need for a decision on the Island's future water supply solution. Detailed analysis indicates that we are at the present time in deficit with our existing supplies in the event of a severe drought, so this is not a decision that can reasonably be deferred: planning and investment is needed at the earliest opportunity to mitigate the current risk.

The Committee therefore considers it imperative that strategic direction on both water and inert waste solutions are provided by the States this term to avoid any further delay.

Yours faithfully,

Deputy Lindsay de Sausmarez
President
Committee *for the* Environment & Infrastructure

cc: propositions@gov.gg