

**Update on Future Proposals for Managing Inert Waste
Strategy
Thursday 26th July 2017**

Welcome



States' Trading
Supervisory Board



Committee *for the*
Environment & Infrastructure

Existing Facility at Longue Hougue



- Definition of Inert Waste
- Amount produce annually
- Predicted Fill of Existing Facility
- The need for a replacement facility
- Reducing fill through recycling & reuse
- Site Waste Management Plans

Inert Waste is largely made up of construction and demolition waste such as building rubble, soil and stone – some of which is recycled or reused. However, there will always be a need for a facility to manage what is left - the *residual* inert waste element – and currently, that is disposed of at the Longue Hougue Land Reclamation site

The total amount produced each year can be extremely variable, as it is linked to the activity in the construction sector. According to the latest forecasts, the site is predicted to reach capacity by 2022.

In future, there will be greater emphasis on steps to reduce this waste, as well as managing it better. A key element of this will be site waste management plans, which the States has agreed will be a requirement for medium and large construction projects, under the Island Development Plan.

These site waste management plans detail how materials will be dealt with, including measures to minimise waste, and reuse or recycle them within a project itself. This should significantly reduce the amount of material which has to be disposed of.

Since December, when the States considered the most recent Inert Waste Strategy policy letter, some progress has been made on some of the elements that should help to extend the life of the current site. However, an alternative solution is still going to be required for when Longue Hougue is finally full.

The December 2017 Policy Letter



- Background to identification and prioritisation of options
- Long list of 50 options
- High Level Environmental Impact Assessment
- Consultation
- Interactive map showing all sites online

The December 2017 Policy Letter detailed the work carried out to identify a future inert waste site.

That looked at a long list of more than 50 potential options, from land-raising or use in sea defences to infill of former quarries or coastal land reclamation.

Over more than a year, the Project Team completed :

A High Level Environmental Impact Assessment which assessed the potential impacts on a long list of possible options and the relative significance of those factors.

An assessment of the Best Practical Environmental Options – including environmental, human and regulatory factors.

Consultation with a wide range of consultees, the building industry and States Members on the process - during April and July 2017 – to provide important input into the process.

The website www.gov.gg/inertwaste provides further details of the options assessed.

The Short list of Site Options

Option	Site / Option
4.15	Guillotine Quarry
5	Les Vardes Quarry
4.19	Paradis Quarry – <i>Paradis and L'Epine originally considered in combination</i>
4.18	L'Epine Quarry
8.1	Longue Hougue South
8.5	North of Mont Cuët/Creve Coeur

Short List of Options

- STSB and CfE&I recommended the 'preferred way forward'
- Longue Hougue South to have a detailed Environmental Impact Assessment

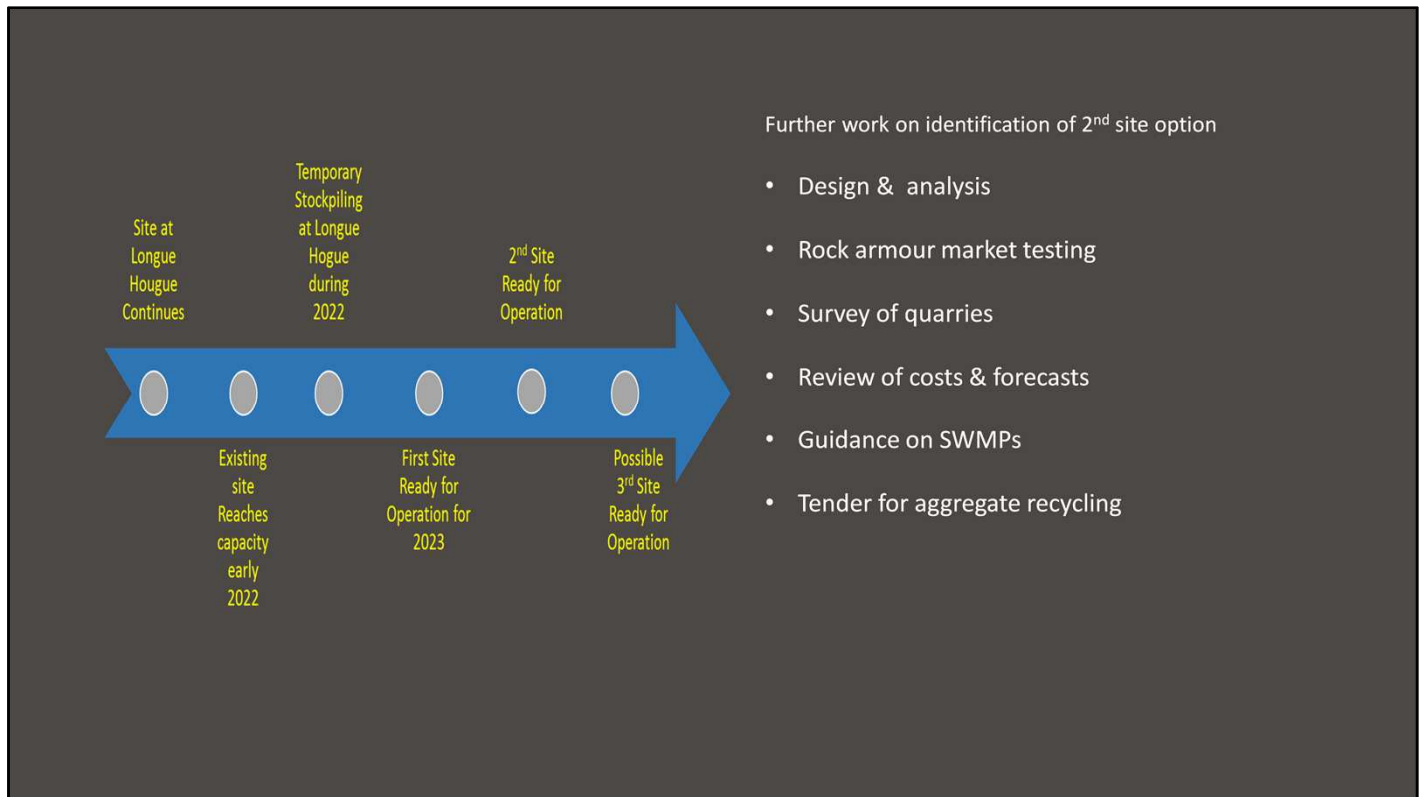
- This resulted in the development of a short list of options, and following further evaluation a 'preferred way forward' and other possible options.
- The States Trading Supervisory Board and the Committee *for* the Environment & Infrastructure recommended that a site just South of the existing Longue Hougue Reclamation Site should be the 'preferred way forward' for a replacement facility for managing inert waste and should go forward for further assessment, including a detailed Environmental Impact Assessment [EIA].



- Resolved that TWO sites be identified
- STSB and CfE&I to choose the sites from the short list
- Detailed EIAs to be carried out on both.
- On completion of EIAs, States to decide on the 'preferred way forward'.
- One site will be subject to a Local Planning Brief & Planning Inquiry

In December 2017, the States resolved to carry out detailed Environmental Impact Assessments (EIAs) on *two* options, before making a final decision on which will be chosen.

- States Trading Supervisory Board and the Committee *for* the Environment & Infrastructure were directed report back with the findings of the EIAs as soon as practicable and to then recommend a 'preferred way forward' for authorisation to progress to the next stages, including an Outline Business Case.
- The EIAs will assess the potential impacts on any development, across a range of factors such as biodiversity, coastal processes, hydrogeology, landscape and air quality. Once these studies are complete, the findings are expected to be presented to the States in late 2019, along with a recommendation for the preferred option.
- Any site development would then still be subject to a Local Planning Brief with its associated Planning Inquiry and an Outline Business Case. Should it still be deemed the preferred way forward it can then progress to the construction phase.



Since the States meeting, the Project Team have carried out further work to identify a second option, alongside Longue Hogue South. This has included:

Reviewing the original forecasts of tonnage of inert waste and assumptions on trends, including the amount likely to be received at a recovery or disposal site.

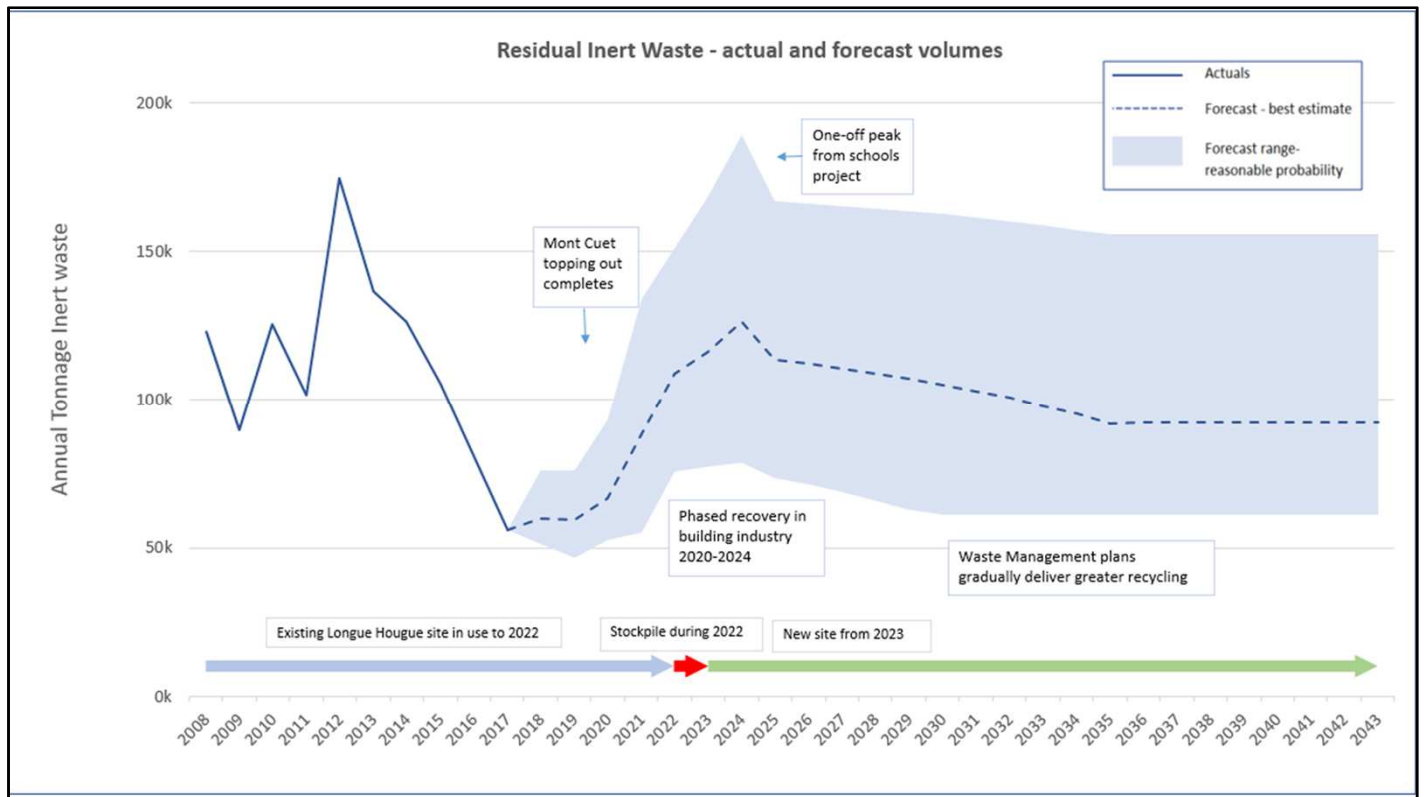
Surveys of some of the shortlisted water-filled quarries, to better understand the capacity, contours, and any important features

Reviewing the design and implementation requirements for all of the short listed options.

Reviewing and updating all the financial estimates – including market testing for any high risk elements – e.g. cost of materials (rock armour)

Reviewing the assumptions for a long term solution for residual inert waste recovery or disposal – looking at possible site combinations that could last in excess of 20 years from 2022.

Provision of guidance on Site Waste Management Plans with the assistance of members of the Construction Industry Forum, to help prevent, reuse and recycle more inert waste.
Commencement of procurement for an aggregate recycling contract.



Based on the latest inputs and some further forecasts following feedback from the construction industry, we have revised of long term forecast down slightly, from 110,000 tonnes per annum to 100,000.

The trend forecast shown in the graph is what we are predicting over the next 20 years. This is the residual waste element, so essentially the waste that we will need to dispose of after efforts to reduce and recycle. As you can see there is significant fluctuation, including an upturn from our current very low level, before returning more towards the historic levels.

Part of the reason for that upturn is the diversion of inert waste that is currently used as cover material at Mont Cuét, which will no longer be required in the future. So although the forecast assumes increased reuse and recycling, including aggregate recycling and the implementation of Site Waste Management Plans, at least some of that reduction is expected to be offset by the reduced requirements at Mont Cuét. The graph also includes provision for some large projects likely to come on stream.

Current forecasts indicate that time is getting short to secure our future options for inert waste management. It is likely that some stockpiling will be necessary during 2022, whilst the new facility is being constructed.

First Option to go forward for an EIA – Longue Hougue South



- Strongest *available* option
- Capacity
- Reasonable cost recovery
- Experience of similar site
- Beneficial use of land
- Environmental data available
- Further environmental analysis needed

- The initial high level environmental impact assessment identified an extension to the current land reclamation site at Longue Hougue as one of the optimum solutions. Following the further work that has been carried out, it remains as the strongest potential **available** option and there is a considerable 'gap' between this and other options on the shortlist.
- This site could provide capacity for up to 15 years
- Gate fees (or price per tonne) that would need to be set to recover costs of build are 'reasonable'.
- We also have experience of working a similar facility in the location, and considerable existing environmental data
- The reclamation of land within the main centre would also have a future beneficial use. (e.g. industrial use)
- We recognise that further work is required to understand further the environmental impacts – for example, biodiversity and coastal processes will be included as part of the detailed EIA.

Site at Mont Cuet/Creve Coeur rejected as 2nd Site /Option



- 2nd best land reclamation site
- Capacity less than LHS
- Design & Analysis
- Market testing rock armour
- Costs are high
- Pursue other options first

- This option offers a land reclamation site that has a capacity of 12 years – the next largest land reclamation site, in comparison to Longue Hougue South.
- It is a potential option, but the costs are high when compared to alternative options on the short list. We would pursue other shortlisted sites first.
- The previous cost estimates were largely based on data that we had available, including existing land reclamation sites in Guernsey with RPI added. Following the States Resolutions in December, we have now carried out market testing to provide more detailed and robust cost estimates.
- Further research involved a review of the engineered design and cost analysis of the rock armour that is required to form the outer walls. Information from local, UK and European suppliers indicates that the market cost of materials has risen considerably.
- Due to the higher level of exposure to wave action at this particular site, with the need for **larger** rock armour in this area, the costs are much greater than in the relatively sheltered site at Longue Hougue South.



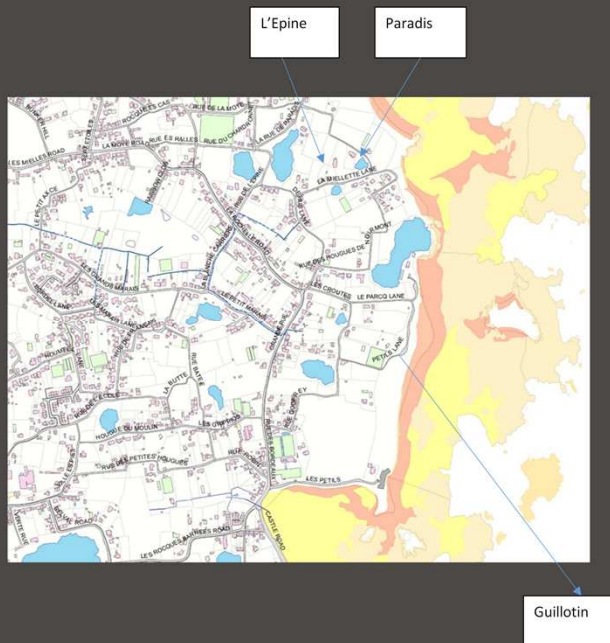
- Barriers to Les Vardes Quarry
- Not available by 2022
- *Potential* Long Term Option only
- Strategic allocation for water
- Internal regulatory processes to reverse SLUP/IDP
- Required for aggregate
- Economic factors

Les Vardes was identified as a long term option, most likely beyond 2030, once extraction has ceased. From a high level environmental impact assessment point of view – like the other shortlisted options – no showstoppers were identified.

It would also have the longest operational life of all the options on the shortlist - 47 years when fully quarried. That compares to around 15 years for Longue Hougue South, which is the next longest expected life. This helps to make Les Vardes a very cost effective option. However, there are significant barriers.

Les Vardes simply will not be available soon enough as a follow on option to the existing Reclamation Site-

The main barriers to the Les Vardes Option is time constraints. Ronez have confirmed they require Les Vardes operationally until 2030/32, to maintain their current quarrying operations and, in future, at Chouet. In the meantime the site is not practically suited for simultaneous operation for both quarrying and inert waste disposal. In addition to the timing issues, there are also Resource Pressures & Policy Constraints. Les Vardes Quarry is currently safeguarded in the Strategic Land Use Plan and Island Development Plan for future water storage. Guernsey Water has recently published its Resource and Drought Management Plan, which reaffirms the importance of Les Vardes as a strategic long term requirement in the case of drought.



Paradis Quarry

- Paradis Quarry not taken forward as a 2nd Option
- Paradis Quarry originally considered in combination with L'Epine Quarry
- Owners contacted post-Dec 17 Resolutions
- Refused further investigation

This was originally identified as a site to be considered in combination with the adjacent L'Epine quarry.

Following the States Resolutions, contact has been made with site 'owners' of all the short listed sites. Unfortunately, permission has been refused to continue investigation of Paradis.

L'Epine Quarry (courtesy of Digimap)



L'Epine Quarry identified as 2nd
Option in combination with Guillotin

Short listed site

Capacity

Cost effective

Some accessibility challenges

Represents 1.25% of GW water
storage

L'Epine Quarry is owned by Guernsey Water, which does not present the same barriers.

Overall, it provides approximately 1.25% of the island's total water storage capacity.

We have looked at other quarry options that were previously identified in the shortlist of options, which could also be used in conjunction with L'Epine.

Guillotine Quarry, is the remaining site on the shortlist, situated north of Bordeaux Harbour.

These two quarries were initially discounted due to their small size – as they offer a relatively short operating life. However in combination, they would have a capacity of around 3 years.

The land uses after these quarries are filled is less attractive than the coastal land reclamation option. The options are that they would return to open land, or potentially could be included within domestic curtilage of adjacent properties, subject to suitable consents.

Guillotin Quarry (courtesy of Digimap)



- Guillotin Quarry combined with L'Epine as the selected 2nd site option
- Privately owned
- Permission granted to further investigate the site.

Guillotine Quarry is privately owned and we have had permission to survey the site for potential further investigation.

In conclusion, L'Epine and Guillotin Quarries have been approved by the STSB and CfE&I as the 2nd option for an EIA – in combination.



- Cost efficiency was important to the evaluation of each site within the shortlist
- First we looked at each site individually
- Then we looked at site sequences and 20 year costs

The financial appraisal of sites was important to help us exclude poor value for money options, and favour those that present best value for money
Our Financial analysis was performed in two steps

- The first stage was concerned with looking at each site individually
- The second stage was concerned with looking at how sites might be used in sequence- and the costs over 20 years of the best combinations

Individual site cost appraisals - Summary

- Estimates only
- Les Vardes Quarry cost uncertainties
- Value for money of each site compared using economic cost per tonne
- Mont Cuët/Creve Coeur costly
- Longue Hougue South mid-price
- Small Quarries lowest cost

Here's a summary of the main points from our review of site financials

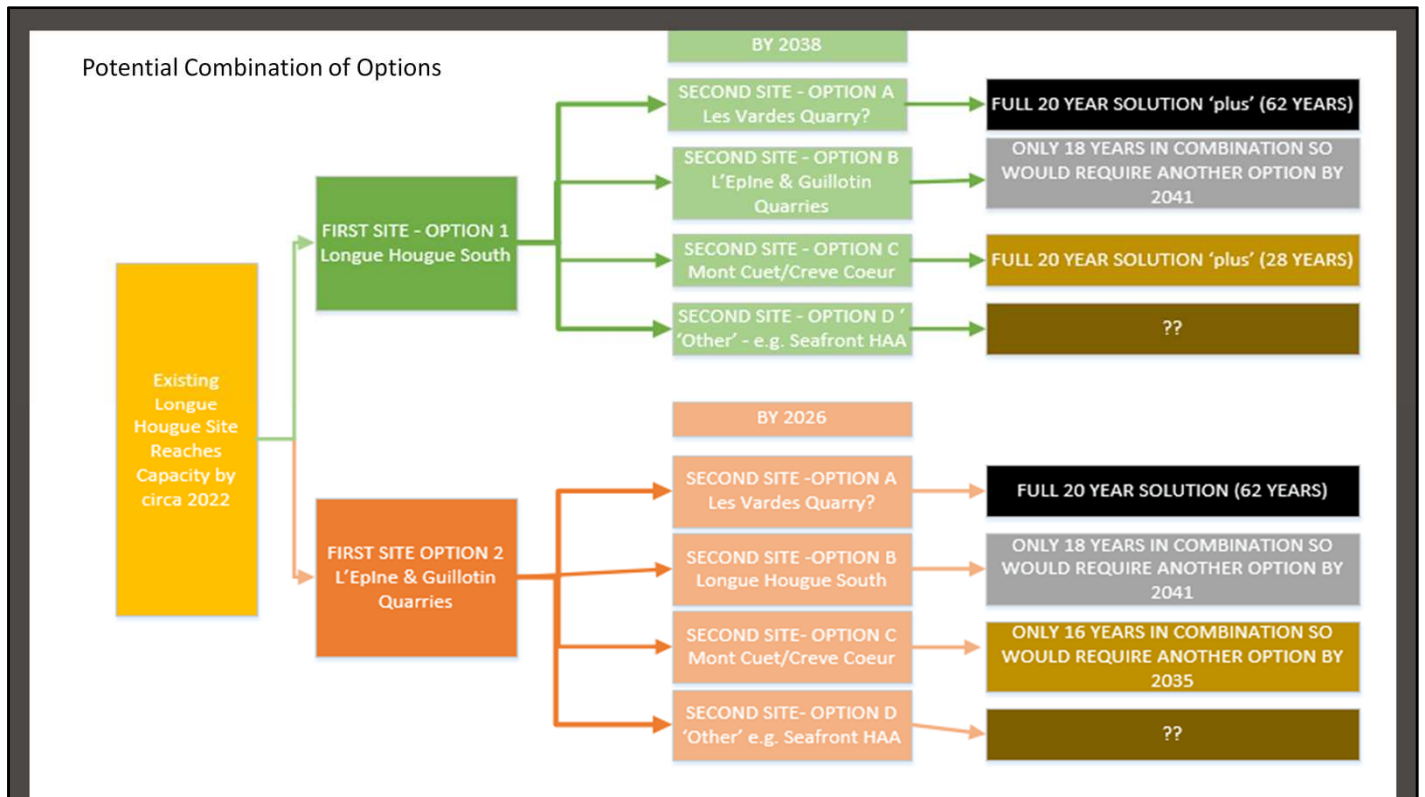
Our costs are based on estimates at this stage. We have not yet performed a detailed design of any option, nor completed an EIA that would indicate the extent of spend required to mitigate environmental impacts.

- Mont Cuët came out most costly- due to its exposed location, and correspondingly expensive breakwater
- Longue Hougue was the mid priced option
- The quarries had the lowest cost per tonne



- Next step in the cost appraisal was looking at how sites might be used in sequence to create a 20 year solution
- This was to help us decide on our short term choices
- A decision tree illustrates the complexity of possible combinations

- The next step in the cost appraisal was looking at how sites might be used in sequence to create a 20 year solution
- We wanted to answer the question “which short term site choices are likely to result in the best value for money measured over the longer term”
- A decision tree illustrates the complexity of possible combinations taking us from 2022 to 2042



Two different sites in combination will in some cases more than fulfil the 20 year strategy. Others come close to it but would require a 3rd option within our 20 year timeframe.

Cost comparisons of potential 20 year site sequences

Summary

- Value for money of sites sequences assessed over 20 years
- We looked at costs and benefits- such as land resale value
- Costs are lower over 20 years if we do the best value sites first. In particular, using the small quarries
- Benefit of using small quarries first is more significant if all the follow on sites are land reclaims- because they offer a better cost per tonne
- If final site is Les Vardes - the benefit of starting with the small quarries is marginal - though they might be an important 'stop gap' option.

Here are the main points from our evaluation of 20 year site sequences

We have investigated the value for money of a number of potential site sequences over 20 years. This was with a view to identifying what our short term choices should be

We did this by looking at costs and benefits, such as land resale value, and taking account of the timing of spend

Economic Costs are lower over 20 years if we do the best value sites first. Using the small quarries first in any site sequence reduces the 20 year economic costs

The benefit of using small quarries first is more significant if all the follow on sites are land reclaims- because the small quarries offer a better cost per tonne

Other medium term options that may come forward for consideration during this time include, for example, land raising as part of the Harbour Action Area plan.

Next Steps - EIA



- EIAs - 2nd phase of contract with Royal Haskoning
- Longue Hougue South, L'Epine and Guillotin EIAs to commence Q3.
- Estimate completion by Q3 2019 (6 months – 1 yr).
- States to decide on 'preferred option' for a Planning Brief by the end of 2019.

Royal Haskoning will be asked to complete the 2nd stage of their contract, to complete detailed EIAs for Longue Hougue South and L'Epine/Guillotin Quarries in combination, commencing in Q3 this year. The EIA work could take approximately around 1 year to complete and will include a number of discrete surveys and analyses to assist with environmentally sensitive decisions. The studies will be undertaken by specialists in their field from the team within Royal Haskoning. The work will include:

- Habitat surveys
- Coastal process and sediment transport modelling
- Flood risk assessments
- Noise and air pollution surveys
- Aquatic, terrestrial and ornithological surveys
- Archeological surveys
- Hydrogeological models
- Transport survey, junction visits and transport modelling

The process will involve and engage appropriate stakeholders in both the scope of the work and the results of the EIA assessments. The EIAs will inform decision making and support the subsequent Policy Letter to the States and will provide evidence to identify the preferred option as the site which should go forward for the preparation of a planning brief for the Planning Inquiry stage.

QUESTIONS

