Item: 9

Development and Infrastructure Committee: 7 September 2021.

Integrated Waste Facility.

Report by Interim Executive Director of Environmental, Property and IT Services.

1. Purpose of Report

To review the preferred treatment options and proposed site for a new waste facility for Orkney.

2. Recommendations

The Committee is invited to note:

2.1.

That, in October 2015, the Council agreed that a project to develop the "Proof of Concept" phase of exploring the feasibility of the proposal to replace the existing waste management facility at Chinglebraes be initiated.

2.2.

That, on 26 September 2018, the Development and Infrastructure Committee reviewed a Stage 1 Capital Project Appraisal in respect of proposed new waste management facilities, which proposed that two options be taken further for consideration, namely:

- Option 2 – Residual waste resource recovery on Orkney – Energy from Waste.
- Option 4 – Separate food waste collection and processing, for example Anaerobic Digestion or In Vessel Composting.

2.3.

That the Development and Infrastructure Committee subsequently recommended that, subject to resources being secured, as an exception to the Capital Project Appraisal process, due to concerns over the sustainability of the current waste disposal route and the necessity of planning to meet more stringent recycling targets, the Executive Director of Development and Infrastructure should submit, to the Policy and Resources Committee, a Stage 2 Capital Project Appraisal in respect of proposed new waste management facilities.

2.4.

That a detailed business case investigation has resulted in the following conclusions:

- Option 2 is not technically viable and instead residual waste should be pre-treated in Orkney prior to shipping elsewhere for disposal.
- For Option 4, the most appropriate technology for the processing of food waste is via In Vessel Composting.

2.5.

The preferred site for the proposed replacement waste facility for Chinglebraes, namely the former Abattoir/Cull Hall site at Hatston, incorporating the existing Household Waste Recycling Centre and associated infrastructure, as detailed on the plan attached as Appendix 1 to this report.

It is recommended:

2.6.

That the proposal to progress development of new waste management facilities be reaffirmed, based on the following:

- In Vessel Composter for organic (food and garden) waste.
- Mechanical pre-treatment (shredding) for residual waste.
- Sorting facility for mixed dry recyclable materials.

It is recommended to the Asset Management Sub-committee:

2.7.

That the site of the former Abattoir/Cull Hall at Hatston, incorporating the existing Household Waste Recycling Centre and associated infrastructure, be adopted as the preferred site for the proposed new waste management facilities.

3. Background

3.1.

Orkney's existing waste transfer station (Chinglebraes) has been operating since 1976. Despite investment a few years ago, it is an ageing facility and cannot provide the scope to improve, nor the flexibility that will be required to respond to the changing legislative landscape in waste over the next five years.

3.2.

There is a wide range of planned and proposed legislation impacting on waste collection and treatment which will place additional requirements on the Council's facilities and collection services. The existing infrastructure is not capable of addressing these requirements, nor does it provide sufficient flexibility to be confident of being able to address any additional requirements which may arise.

3.3.

The latest official government figures (2019) for household waste recycling rates show that in Orkney the rate is 18.8%, compared to a Scottish average of 44.9%.

The Scottish Government target is for 70% of all household waste to be recycled by 2025. Significant interventions are required to allow Orkney to aim for this target, enabling a wider range of materials to be collected and processed separately. Whilst garden waste is currently treated separately, it is not to the standard required and so does not currently count towards the recycling target. To collect additional material streams will require expansion of the facilities at the Waste Transfer Station and the ability to separate and sort co-mingled material streams.

3.4.

It is critically important to note that no other interventions together are capable of lifting the recycling performance to a level where the Council can verify it is working towards meeting these national aims.

3.5.

Collection of additional, recyclable material streams will also reduce the amount of residual waste exported for treatment, and the costs associated with this. In addition, the Council will be able to recover the value inherent in these materials.

4. Introduction

4.1.

At its special meeting held on 26 September 2018, the Development and Infrastructure Committee noted:

- That, in October 2015, the Council agreed that a project to develop the "Proof of Concept" phase of exploring the feasibility of the proposal to replace the existing waste management facility at Chinglebraes be initiated.
- The Stage 1 Capital Project Appraisal in respect of proposed new waste management facilities, attached as Appendix 1 to the report by the Executive Director of Development and Infrastructure.
- That, should the project progress through the Capital Project Appraisal process, resources of up to £99,000 were available to produce the Stage 2 Capital Project Appraisal.
- That a further sum of up to £150,000 was required in order to develop the Stage 2 Capital Project Appraisal in respect of proposed new waste management facilities.
- Options for proposed new waste management facilities, as outlined in section 8 of the report by the Executive Director of Development and Infrastructure, with the preferred options to be progressed to the detailed Stage 2 Capital Project Appraisal being as follows:
    - Option 2 – Residual waste resource recovery on Orkney – Energy from Waste.
    - Option 4 – Separate food waste collection and processing, for example Anaerobic Digestion or In Vessel Composting.

4.2.

The Committee recommended:

- That the Executive Director of Development and Infrastructure should submit a report, to the Policy and Resources Committee, regarding funding required to develop a Stage 2 Capital Project Appraisal in respect of proposed new waste management facilities.
- That, subject to resources being secured, as an exception to the Capital Project Appraisal process, due to concerns over the sustainability of the current waste disposal route and the necessity of planning to meet more stringent recycling targets, the Executive Director of Development and Infrastructure should submit, to the Policy and Resources Committee, a Stage 2 Capital Project Appraisal in respect of proposed new waste management facilities.

5. Identified Treatment Options

5.1.

A detailed Business Case was completed in 2019 with the objective of achieving the following:

- A balance between defining and delivering sustainable levels of waste minimisation/reduction and recycling.
- Potentially introduce treatment of selected waste streams (eg treatment of organic wastes and other processes, increasing resource recovery).
- Providing a residual waste treatment option and/or facility of appropriate scale and technology.
- Minimising the disposal of residues to landfill to meet the forthcoming ban on biodegradable municipal waste to landfill ban.

5.2.

As a result of this work, the preferred options from the Stage 1 Capital Project Appraisal were investigated, with the following conclusions:

- Option 2: An Energy from Waste solution is not technically viable. Instead residual waste should be subject to mechanical pre-treatment, prior to export for disposal.
- Option 4: The most cost-effective treatment for organic waste is In Vessel Composting.

5.2.1.

This approach provides for the lowest technical and economical operating risk to the Council and is suited to the tonnages of waste throughput and scale managed in a small Islands context. The details and conclusions of the Business Case study were discussed in depth with Members at a seminar on 19 September 2019. A key finding was that there is no suitable energy recovery technology capable of dealing with the relatively low volumes of waste produced in Orkney. Therefore, waste will continue

to be required to be exported for disposal. The provision of additional pre-treatment will, however, allow for flexibility regarding disposal locations, should this be necessary.

5.3.

Inherent in this conclusion is the requirement for the Council to introduce a food waste collection service to the community. Currently Orkney is not required to collect food waste separately, due to the rural derogation contained within the Waste (Scotland) Regulations 2012. However, there have been strong indications from the Scottish Government that this derogation may be removed in the future.

5.4.

The original Stage 1 Capital Project Appraisal gave no consideration to any sorting facilities for recyclable materials. However, given the increasing focus by Government on the capture of a wider range of materials and the associated legislative requirements regarding kerbside collection and sorting, it is considered prudent to take this opportunity to include the appropriate sorting facilities, principally, an ability to separate plastic materials from steel and aluminium. This will enable the co-collection of these materials, simplifying the collection processes for householders, increasing the recycling rates and ensuring compliance with regulatory requirements.

6. Proposed Waste Facility

6.1.

The components of the proposed waste facility are:

- In Vessel Composter for organic (food and garden) waste.
- Mechanical pre-treatment (shredding) for residual waste.
- Sorting facility for mixed dry recyclable materials.

6.1.1.

As the proposed site for the facility includes the existing Household Waste Recycling Centre, it is intended to incorporate this into the site, with the increased area meaning that it will be capable of taking a significant increase in tonnages of both residual waste and recycling as well as offering scope to collect a wider range of recyclable materials. Complementary to this, the concept of the addition of a re-use ‘front of house’ one stop shop, with a view to working in partnership with a third sector partner to operate this facility, is included.

6.2.

The mechanical pre-treatment process will enable the sifting and sorting of waste and so ensure compliance with regulatory waste thermal treatment guidelines. This builds flexibility in respect of the export of treated residual waste, allowing the exploration of options elsewhere in Scotland or the UK or, potentially, Europe. Additionally, this process will sift out the most valuable materials from the waste

stream such as steel and aluminium cans, enabling the recovery of value from these items.

6.3.

The ability to sort dry recyclable materials will facilitate the introduction of co-mingled kerbside collections, which drive up recycling rates, due to making it easier for the community to recycle. This will also ensure a more consistent system with the rest of Scotland, again making it easier for residents and visitors to understand and allowing consistent messaging across the country.

6.4.

The new facility has been designed with the future in mind, enabling Orkney to benefit from forthcoming legislative changes by providing the infrastructure and space to collect additional materials with the capacity and technology to process these where there is a clear market. This will result in a plant that has inbuilt resilience, capable of responding to the future market and the opportunities that presents including increasing further the household recycling performance.

6.5.

The cumulative impact of collecting more recycling streams, plus the separation of food waste will result in reduced residual waste tonnages being shipped to Shetland for disposal. This results in reduced haulage costs as well as reduced disposal costs. In order of magnitude, the savings that can potentially be achieved through the delivery of a new waste facility and associated collections infrastructure will be derived from avoided residual disposal, residual collections savings and recycling collection savings.

7. Site Selection

7.1.

The Stage 1 Capital Project Appraisal noted that land had been purchased and was outlined within the Local Development Plan as being appropriate for an Energy from Waste Plant. Investigations were therefore undertaken to identify a suitable site.

7.2.

The business case carried out in 2019 included initial consideration of potential sites, including the merits of using (but with expansion) the existing waste facility sites at Chinglebraes and/or Bossack.

7.3.

Officers took this baseline information and carried out a full site selection exercise, using a list of over 20 sites, all of which were considered against multiple criteria and in consultation with colleagues in other internal services.

7.4.

Use of the existing sites at Bossack and Chinglebraes was considered in depth as part of the site selection exercise. This would have required a split-site, with the In Vessel Composting facilities for organic waste located at Bossack and the site at Chinglebraes reconfigured for the pre-treatment of residual waste. Notwithstanding the inefficiencies inherent in this approach, it would have required infill of the quarry void at Chinglebraes, reprofiling of an area of the site at Bossack and would not have allowed for the recycling sorting facilities which are proposed and which will play a significant role in increasing the recycling rate and reducing the volume of residual waste requiring disposal. This option was therefore discounted.

7.5.

The outcome of the site selection process was discussed in detail with Members at a seminar on 24 March 2021, noting that the recommendation is to build a replacement waste facility for Chinglebraes at the former Abattoir/Cull Hall Site at Hatston, incorporating the existing Hatston HWRC and associated infrastructure.

7.6.

Eunomia Research and Consulting, acting as the project's independent technical advisors, submitted a planning development brief, in respect of the preferred site of the former Abattoir/Cull Hall Site at Hatston, to the Planning Service in 2021. The response received on 22 March 2021 advised that the development is not likely to have significant effects on the environment and therefore will not require an Environmental Impact Assessment and nor does it fall within a sensitive area.

7.7.

A conceptual site layout showing the details of the proposed facility and the location at Hatston is attached as Appendix 1 to this report.

8. Human Resource Implications

8.1.

Should funding be approved for this facility it is likely that one additional FTE will be required for operation of the In Vessel Composter. However, it may be possible to provide for this from within the existing pool of operational staff. No reduction in staff requirement is anticipated.

8.2.

Any increase in Service establishment, will require relevant governance approval to be sought, in line with relevant Council and HR Policies and Procedures.

9. Links to Council Plan

9.1.

The proposals in this report support and contribute to improved outcomes for communities as outlined in the Council Plan strategic priority theme of Enterprising Communities.

9.2.

The proposals in this report relate directly to Priority 4.6: Explore ways to reduce the volume, and cost of handling, of the county's waste of the Council Delivery Plan.

10. Links to Local Outcomes Improvement Plan

The proposals in this report support and contribute to improved outcomes for communities as outlined in the Local Outcomes Improvement Plan priorities of Strong Communities and A Vibrant Economy.

11. Financial Implications

11.1.

The annual operating costs of the proposed facility, including the In Vessel Composter, Mechanical Pre-Treatment plus recyclate sorting are estimated at £1 million. The current budget for the waste facility costs is £950,000. However, it should be noted that elements of the work carried out at Bossack will transfer to the new facility and are not included in the £950,000 budget. Further efficiencies are expected as a result of the increased recycling rate and subsequent reduction in the volume of waste that is transported to Shetland. Therefore, it is estimated that the proposed facility will not require additional revenue funding. However, neither will it offer opportunities for significant savings. Instead, the benefit of the Integrated Waste Facility is in the opportunities for efficiencies with collections and disposal, rather than the treatment process itself.

11.2.

The initial Stage 1 Capital Project Appraisal had estimated costs as follows:

- Option 2 – Energy from Waste – £22.5 million.
- Option 4 – Anaerobic Digestion or In Vessel Composting – £8 million.

11.2.1.

These costs were for the required technology only, rather than the full costs associated with developing the project, such as site clearance, buildings, technology and utilities. As noted previously, Option 2 has been discounted, to be replaced by additional pre-treatment. The comparative cost of this option therefore is now £2.5 million. The technology selected for Option 4, In Vessel Composting, is priced at £2 million. The materials sorting facility for recyclates is estimated at £800,000.

11.3.

Inclusion of a Re-use shop within the facility is estimated to cost £55,000. The incorporation of an improved Household Waste Recycling Centre does not require additional technology or buildings but will mean that a larger area will require preparation and landscaping.

11.4.

Taking all of the above into account, the full costs of developing the Integrated Waste Facility, incorporating site clearance, buildings and infrastructure, in addition to the technology, are estimated at a total capital cost of £17 million. These costs were estimated in early 2021 and may need to be adjusted upwards to reflect the impacts of Brexit and the COVID-19 pandemic which have led to significant increases in construction costs over the past few months.

11.5.

Support to cover some of the expected capital costs is being sought from the Scottish Government's Recycling Improvement Fund, a £70 million fund designed to support transformative projects aimed at substantially improving Scotland's recycling rate through the improvement of services and treatment infrastructure. Following an initial expression of interest, the Council has been invited to submit a Stage 2 application to the Fund. It is intended to submit this application in September 2021, in order to establish the likely level of contribution prior to consideration of the Stage 2 Capital Project Appraisal. Funding is being sought for the full amount of in-scope costs, which represents approximately £12 million of the overall costs.

12. Legal Aspects

Collection and treatment of waste and recycling is governed by the Waste (Scotland) Regulations 2012. This requires the Council to provide for the separate kerbside collection of dry mixed recyclable materials. A rural derogation is currently in place which means that there is no requirement to collect food waste separately. This derogation is, however, under review and may well be removed, for some, if not all, of Orkney.

13. Contact Officers

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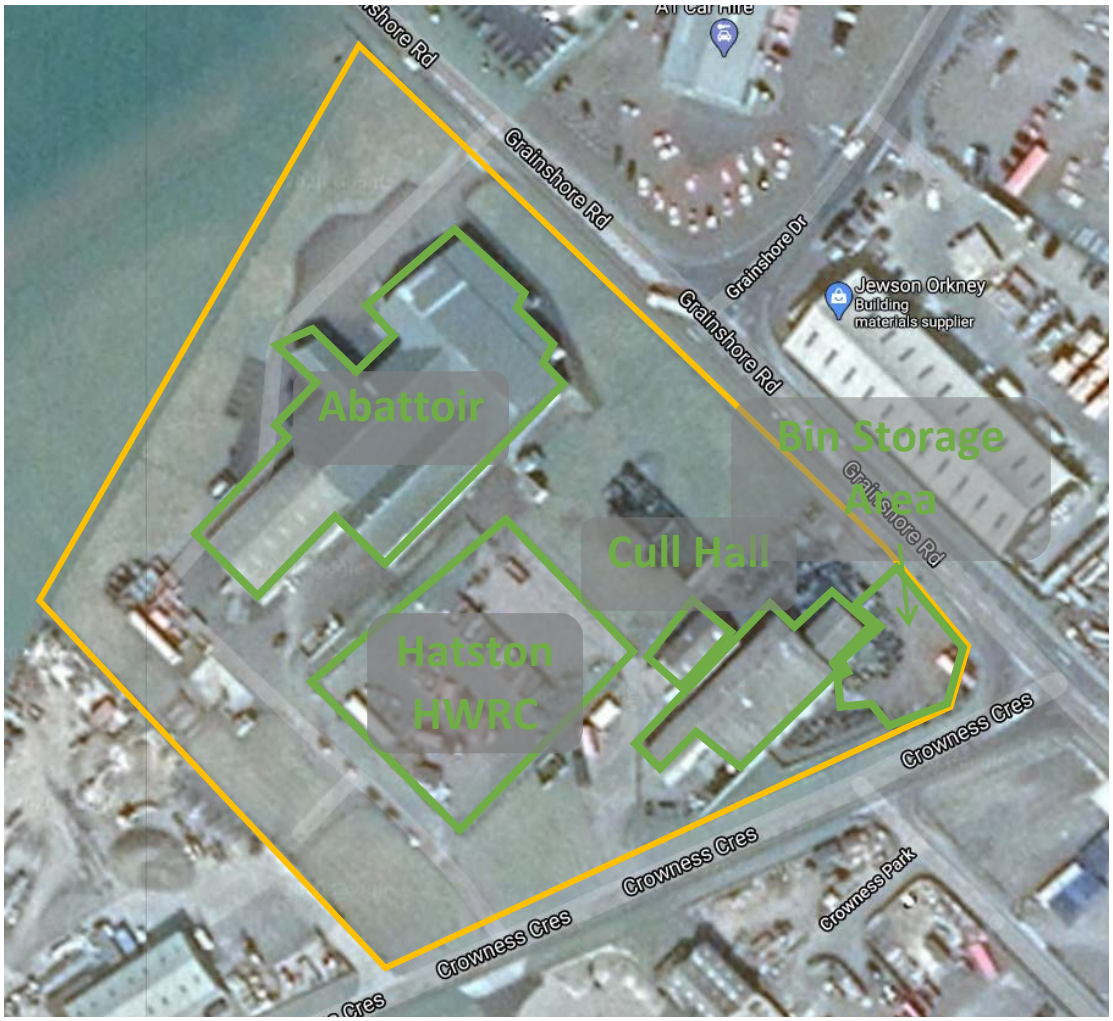
14. Appendix

Appendix 1: Conceptual site layout.

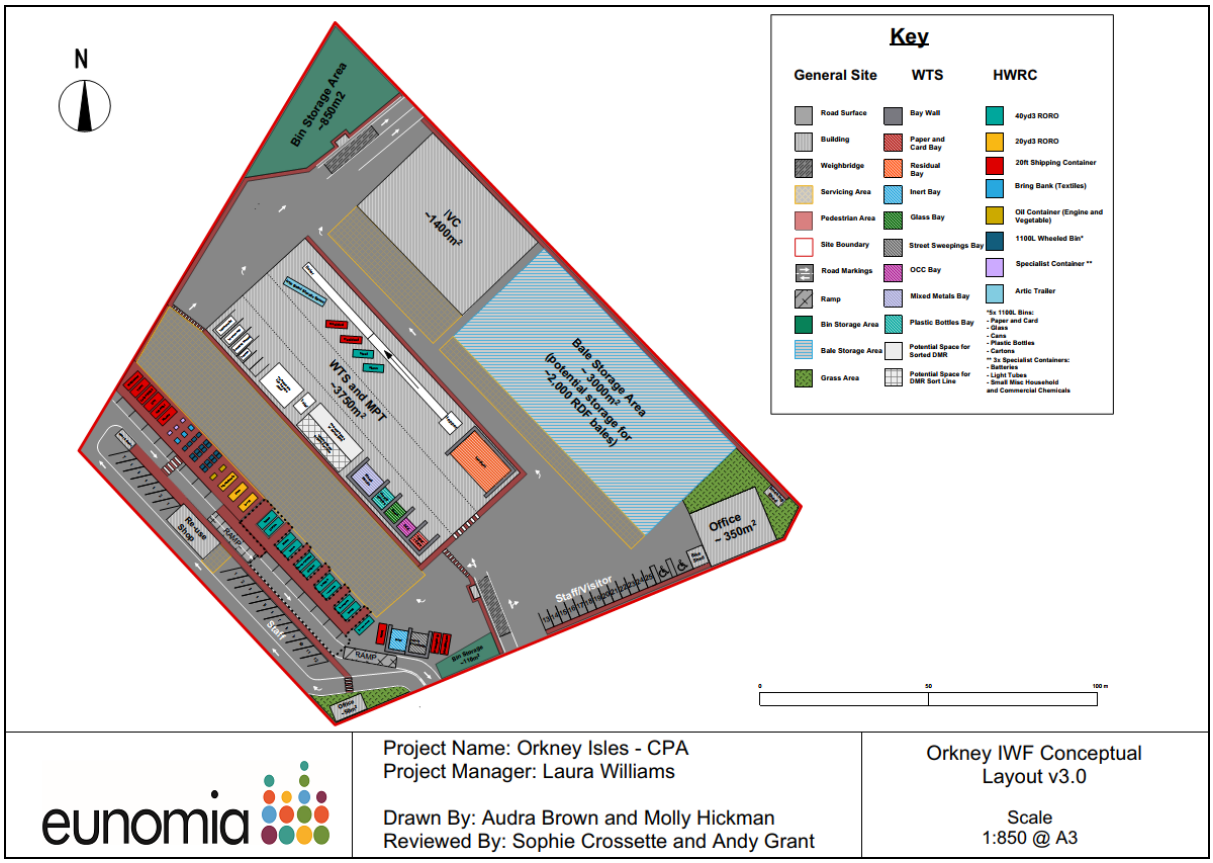
Appendix

Integrated Waste Facility – Site Layout

Proposed location



Conceptual Site Layout



eunomia	Project Name: Orkney Isles - CPA Project Manager: Laura Williams Drawn By: Audra Brown and Molly Hickman Reviewed By: Sophie Crossette and Andy Grant	Orkney IWF Conceptual Layout v3.0 Scale 1:850 @ A3