Waste Management
Infrastructure Delivery Plan Topic Paper

1. Introduction

1.1. This paper considers household waste management services within South Gloucestershire, the key legislative and strategic drivers, delivery mechanism and current context.

1.2. Within South Gloucestershire, the waste service is crucial to the delivery of the Council Plan 2024 – 2028 priority 'we will respond to the climate and nature emergency'.

1.3. The continued maintenance and growth of waste infrastructure helps to ensure new communities flourish and the provision of an efficient, effective and economically viable waste service, which makes best use of the public purse.

1.4. The waste service is also a critical contributor to ensuring the proposed priorities and objectives of the new Local Plan are met by helping to ensure the environment is protected and new housing is supported by essential infrastructure.

1.5. The service also contributes to the delivery of the council's Climate Change Strategy which has a ten-year lifespan 2020 – 2030 with an action plan in place to support the achievement of the council's climate goals, including the overarching target of net zero by 2030. Climate change is significantly impacted by unsustainable consumption and waste disposal and consequently waste minimisation, recycling and reducing residual waste all have an important part to play in addressing the climate emergency and the service is working towards achieving the targets it has been set.

1.6. The South Gloucestershire: 'Resource & Waste Strategy 2020 and beyond' agreed at Cabinet in March 2020, sets out how the vision of the waste service with ambitious targets to reduce consumption, particularly of single-use items, increase recycling to 70% by 2030 (latest recycling rate for 2023/24 is 56.7% - provisional) and at the same time reducing waste going to landfill to 0% (latest rate for 2023/24 is 2.5% - provisional) which takes the service on the required journey to net zero.

2. National Policy & Legislative context

2.1. South Gloucestershire Council as the waste authority has a duty to collect household waste under section 45 of the Environmental Protection Act 1990, as amended (EPA 1990).

2.2. UK Government policy and changing legislation will affect how the council provides waste services over the medium term. The Waste and Resources Strategy 2018, and waste prevention programme, 'Maximising Resources, Minimising Waste', sets out the government's priorities for managing resources and waste through minimising waste, promoting resource efficiency and moving towards a circular economy. The strategy also seeks to minimise damage caused to our natural environment by reducing and managing waste safely and carefully, and by tackling waste crime.

2.3. The Environment Act 2021 set a statutory target for the weight of residual waste (excluding mineral) per capita to be reduced by 50% by 2042 from 2019 levels. Additional interim targets specify that by 2028, residual waste should be reduced to no more than 437kg per capita, with a total tonnage of 25.5 million tonnes. A separate interim target of 333 kg per capita has been set for municipal residual waste, and individual targets for food waste, plastic, paper, card, metal and glass.

2.4. In line with the Environment Act 2021, the government announced 'simpler recycling' in October 2023 requiring all local authorities in England to collect the same recyclable waste streams including paper and card, plastic, glass, metal, food waste and garden waste for recycling of household and commercial waste. This aims to overcome the confusion that can occur when local authorities offer different recycling services. The government has issued a timeline for adopting consistent collections with all requirements to be met by 31 March 2027.

2.5. A Deposit Return Scheme (DRS) for drinks cans and plastic bottles is anticipated to come into effect in England in October 2027. Under the DRS a levy will be charged on single use drinks can and plastic bottles, which is refunded when the consumer returns the packaging for recycling. The DRS is likely to reduce the tonnages of these materials collected by the Council from the kerbside.

3. Delivery in South Gloucestershire

3.0 The current waste service is delivered through a 25-year PFI (Public Finance Initiative) contract that expires in July 2025. The service is delivered through a Special Purpose Vehicle, 'Suez South Gloucestershire'. It is supported through DEFRA's Waste Infrastructure Delivery Programme (WIDP) including £3.1million grant per annum in PFI credits that will end in July 2025.

3.1. From 31 July 2025, SGC will move to a new waste service delivery model of an outsourced collections service and inhouse service delivery of household waste recycling centres (HWRCs), transfer stations and managing material brokerage in house with neighbouring local authorities.

3.2. The day-to-day waste collection, waste disposal and management service are funded predominantly via council tax receipts and central government funding with an annual budget of £18.8million in 2023/24. As part of the PFI contract arrangement

the council receives a £3.1million annual grant from DEFRA which will cease at the end of the contract in July 2025 and the service will be required to fund its provision through additional income generation or savings.

3.3. The Waste Management Equalisation Reserve smooths the costs of the PFI across the 25 years of the contract. As of 31 March 2023, there was a balance of £8.1million in the reserve. This has been committed to support the unmet savings targets for the waste service until the end of the PFI contract, to fund the Waste Transition project and to support the waste capital programme.

3.4. Capital expenditure is via the council's capital programme, as funding allows. Currently planned is a new waste depot adjacent to the Mangotsfield HWRC which is in the planning phase and an additional vehicle depot and transfer station in the North Fringe, for which surveys are underway to inform the design phase. Partial funding of £6.3m has been established through developer contributions (£1.7m), capital receipts and from the Waste Management Equalisation Reserve. This leaves an estimated shortfall of more than £9million.

3.5. The major capital expenditure for the core collection service, delivered by an external contractor, is for the vehicles and in 2023 this amounted to circa £12million, with a vehicle life span of around eight years. The vehicles are funded and owned by the council but specified and purchased by the contractor. The future outsourced collections service contract will include a mechanism to increase collection vehicles and crews to allow for increased housing growth (as is the case for the existing contract with Suez) with agreed trigger points (number of houses) within the contract. The costs of this are met through monthly payments to the contractor for which budget will need to be acquired.

3.6. The impact of additional housing on insourced arrangements are the costs of waste disposal of both the collected kerbside waste and that brought into the HWRC or directly by trade into the transfer stations as well as haulage and other brokerage costs such as gate fees. Each new property will need to be provided with a set of bins and recycling containers. Significant growth of housing will require the consideration of increasing the existing provision of HWRCs and transfer stations to manage the additional waste arisings. Developer contributions are likely to be needed to assist fund new capital requirements and household bins and containers.

3.7. Waste management services are high profile and provided to all residents in South Gloucestershire. The services include kerbside collections of materials for residual and recycling waste, a kerbside subscription only collection of garden waste, provision of wheeled bins and boxes for storage, chargeable bulky waste and commercial collections and the operation of four Sort It Centres and two transfer stations.

3.8. The recyclable materials collected weekly from the kerbside are cardboard, food, glass bottles and jars, mixed plastics and cans including empty aerosol cans and aluminium foil, clothes and textiles, shoes, household batteries, and paper. The service is also trialling weekly kerbside collections of flexible plastics from trial households with an aim to roll out to 100% of households by the end of 2026.

3.9. Residual waste is collected fortnightly from the kerbside in standard 140 litre bins. However, a reduced frequency of collection is planned that will be supported by the introduction of a separate fortnightly AHP collection. Additional bin capacity is available to larger households (subject to an administration charge) and for residents with additional medical waste (no charge). Residents with young children in nappies are provided with a separate nappy sack to present next to their residual waste bin.

3.10. Separate clinical waste and sharps collections are also provided.

3.11. Green waste is collected fortnightly in 240 litre bins through an annual subscription service. Alternatively, residents may purchase garden waste sacks and book one off collections (collected on the same day as their black bin collection).

3.12. In the year April 2023 to March 2024 the service dealt with 117,253 tonnes of waste from 125,740 households, giving a figure of just under one tonne per household.

3.13. In 2023/24, 56.7% (provisional) of our waste was recycled, a decrease of -1.9 percentage points on the previous year. The decrease in performance is a result of higher overall household tonnages e.g. growth in households combined with less waste being sent for reuse, recycling, and composting. The industrial action by waste collectors in the summer of 2023 had a significant effect on provision of waste services and recycling participation and which subsequently led to an increase in the proportion of residual waste that was collected.

3.14. Supporting these arrangements is a waste management team responsible for managing contracts, leading on the West of England waste partnership (a contract running until 2030 for disposal at Energy from Waste (EFW) plants of residual / black bin waste), providing education and advice to residents as well as resolving issues.

3.15. The council's waste service has four Household Waste Recycling Centres (HWRCs), branded as Sort It centres, in Thornbury, Little Stoke, Mangotsfield and Yate. Two waste transfer stations are in the latter two sites and there are collection vehicle depots in Warmley and Yate. Within Yate there is a baling function operating on a leased area of land. There is also a reuse shop at the Thornbury site. The council has applied for planning permission to develop a waste depot adjacent to the Mangotsfield HWRC to replace the depot at Warmley. Subject to budget being identified for construction this will allow for more efficient operations and collection routes which will in turn improve our environmental impact.

3.16. There is also a proposed new waste transfer station, vehicle depot and waste processing facility in the North Fringe area (North Way site), Filton and survey work has started to prepare the site for development. Future plans include expanding this to a HWRC when funding allows to alleviate existing and anticipated future pressures from the housing growth in the North Fringe area. A site of approximately 1.52ha has been acquired and is large enough to include all desired waste facilities, including longer term plans for a full HWRC.

3.17. YATE (Sort It Centre, transfer station and baler operation): The existing combined Sort It Centre and transfer station was built in 2002 when the old civic amenity site being converted into a depot for recyclable materials. Neighbouring the site is a leased area currently used for baling recycling ready for onwards shipment. The SORT IT Centre and Transfer Station is small with a total area including the transfer station of 6,100m^2. The layout is split with the public access road running between the waste tipping and the recyclable tipping areas and there is very little space on site for queuing vehicles. Making space for any further waste segregation or to handle increased quantities is likely to be difficult. This will be further compounded with the anticipated relocation of the baler operation onto the existing footprint of the site. In the financial year April 2023 to March 2024 the Sort It Centre handled 9,616 tonnes and of that 65% was recycled or recovered, and the site as a whole (all sections together) handled 54,675 tonnes. This figure excludes the 9,280 tonnes of kerbside collected garden waste which is currently direct delivered by RCV to a composting treatment facility in Frampton Cotterell, South Gloucestershire.

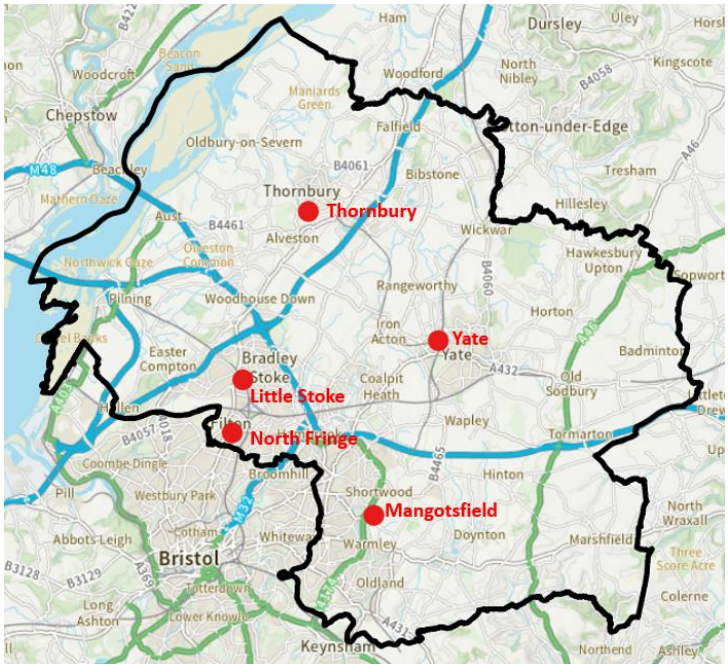
3.18. MANGOTSFIELD (Sort It Centre and transfer station): Mangotsfield Sort It Centre combined with the transfer station is 9,500m2. Built in 2003, the facility was not designed for the extended range of segregated waste streams now being processed. By 2015/16 both traffic and waste capacity reached near to the limits of the site with the current opening times. In 2016/17 changes to opening hours for all sites and a newly introduced residents' vehicle registration scheme linked to ANPR has helped to reduce numbers visiting and control tonnages. The recent addition of a slip road into the site has improved vehicular access and reduced the likelihood of road traffic accidents caused by vehicles entering the site from both directions on the adjacent Carsons Road. In the financial year April 2023 to March 2024 the Sort It Centre site handled 13,713 tonnes, of which 65% was recycled or recovered. The whole site handled 60,294 tonnes.

3.19. THORNBURY (Sort It Centre and Reuse shop): The site was built in 2005 and has an area of 5,000m2. In the financial year April 2023 to March 2024 the site handled 5,451 tonnes and of that 70% was recycled or recovered. There is a re-use shop on the site which sells an assortment of items including furniture, electrical and household items collected from the bulky waste collection service and the four Sort

It recycling centres. The reuse shop helps to divert useable items from disposal and provides residents an opportunity to buy preloved items.

3.20. LITTLE STOKE (Sort It Centre): The Station Road HWRC in Little Stoke was built in 1981 before the housing development at Bradley Stoke. The site is small covering an area of 2,400m^2 and this limits the number of people that can use the site at anyone time to around ten. Because of the limited area available, high vehicles and those with trailers are required to use alternative sites. In the financial year April 2023 to March 2024 the site handled 3,347 tonnes and of that 63% was recycled or recovered. Well used sports facilities to the north and east and the low railway bridge to the south (that would need reconstruction), limit the opportunity to expand the site.

3.21. Map showing the location of the HWRCs.



3.22. 74 vehicles are required for the current service, broken down as follows:

Refuse collection vehicles (RCVs)
15 x fortnightly RCVs
6 x fortnightly garden waste collection vehicles
2 x dry mixed recycling vehicles
1 x commercial vehicle
4 x narrow access vehicles

Romaquip recycling vehicles
41 x weekly recycling vehicles
3 x narrow access vehicles

Others

2 x vans for bin deliveries
1 x van for weekly clinical / medical collections
2 x tail-lift box vehicle for bulky waste collections

3.23. Each house is provided with the following containers as standard:
1 x 140 litre (l) black bin
2 x 55l boxes for household waste recycling
1 x 23l kerbside caddy for food waste
1 x 5l kitchen caddy for food waste
1 x 240l garden waste bin for households subscribing to the garden waste service

3.24. Additional recycling boxes and nappy sacks are provided on request.

3.25. Residents with additional needs are also provided with additional bins subject to application and assessment.

3.26. Flats and Homes in Multiple Occupation are assessed individually, and appropriate containers provided and for flats this usually requires bin stores to house them. Containers may also include 1,100l Euro bins as well as appropriate sized bins for dry mixed recycling.

3.27. Kerbside collections of flexible plastics are currently being trialled to ascertain the most efficient collection process. Additional receptacles may be required for the collection of these materials.

Future housing development needs to consider the following:

- The future outsourced collections service contract will include a mechanism to increase collection vehicles and crews to allow for increased housing growth (as is the case for the existing contract with Suez) with agreed trigger points (number of houses) within the contract. The costs of this are met through monthly payments to the contractor for which budget will need to be acquired.

- The impact of additional housing on future insourced arrangements are the costs of waste disposal of both the collected kerbside waste and that brought into the HWRC or directly by trade into the transfer stations as well as haulage and other brokerage costs such as gate fees. Each new property will need to be provided with a set of bins and recycling containers.

- Significant growth of housing will require the consideration of increasing the existing provision of HWRCs and transfer stations to manage the additional waste arisings. Developer contributions are likely to be needed to assist funding new capital requirements and household bins and containers.

- Waste and recycling rounds may need to be rerouted to accommodate additional housing and collection vehicles. Funding will be required to do this.

- Additional resource may be required to communicate changes to collection routes and to ensure communities are supported going forward.

- New legislation may place additional burdens on authorities, in particular relating to minimising waste production and the provision of recycling services.

4. Proposed Growth

4.1 The new Local Plan proposes growth of about 24,200 new homes between 2025-2041. Approximately 11,000 are already committed (on allocated sites and or with planning permission) and small site windfall. Some of the largest sites have or are due to make financial contributions towards waste services and facilities. These are:

- Cribbs Patchway New Neighbourhood (approx. 4875 homes) – £1.7m (50% payable on 500th dwelling & 50% on 1000th dwelling)
- Scholars Chase, Land East of Coldharbour Lane - £134,297.55
- North Yate New Neighbourhood (approx. 2,500 homes) – £289k has been spent on development of the Yate waste facility.
- Peg Hill, Yate - £31,211.34 has been spent on development of the Yate waste facility redevelopment.

Figures are indexed linked

4.2 Of the other approx. 13,000 new homes about 3,600 are expected to be completed on brownfield sites in the main urban areas, the bulk of which will be in the north & east fringe of the Bristol urban area. Small windfall infill sites will contribute another 230 dwellings per annum, leaving some 12,000 on greenfield sites in a series of large and small urban extensions around the Bristol fringe and some small & medium sized village extensions across the district. Some 775 dwellings are also planned in Charfield in the north of the district. These new households (including those committed) will increase the amount of waste by about 20,000 tonnes per annum.

4.3 South Gloucestershire Council's waste service needs to consider the impact of additional households on the collection and storage of waste for processing, and in particular:

- Vehicles required to collect additional household waste. The council currently needs an additional refuse collection vehicle for every 8,000 new homes and an additional recycling truck for every 3,500 homes.
- Household receptacles for residents to present waste at the kerbside or to collect waste in communal bin store areas.
- Ensuring sufficient capacity to store waste and recycling collected as well as the space to segregate materials as required by current and future government legislation.

- Capacity at SORT IT recycling centres for increased visits created by an increase in the number of households.

4.4 As set out above, the existing facilities in South Gloucestershire are operating at or near to capacity. New Local Plan growth is concentrated in and around the north & particularly east fringe of the Bristol urban area.

North Fringe

4.5 The new local plan allocates about 4000 new homes in the Bristol North Fringe area. This is on top of currently committed growth. The North Fringe areas are currently served by Little Stoke SORT IT recycling centre. Little Stoke SORT IT recycling centre is a small site that can only collect a limited number of materials. It is overwhelmed by visitors with waste capacity at the maximum limit, resulting in residents needing to dispose of waste materials visiting Thornbury, Yate or Mangotsfield SORT IT recycling centres increasing the capacity issues at those sites. As housing development continues to grow there is therefore a pressing need for additional facilities to serve the area, including a new, larger SORT IT recycling centre, vehicle depot and waste transfer station. This would also build capacity into the whole system to support development elsewhere. A new reuse shop would also help increase reuse and recycling and increase capacity of waste facilities.

4.6 The substantial growth in the area (and more widely across the region) has resulted in the operational capacity of the current waste depots being near capacity in dealing with materials collected directly from households (locally and also across the region). There is therefore a need to develop a new site within the region to take up some of this operating capacity, to allow for increased growth across the region. The council therefore purchased a site on North Way which was previously owned by Viridor for a new waste facility in the North Fringe area but progress to develop this site has been hindered by budget availability (exasperated by high levels of inflation). For a fully developed waste site with SORT IT Centre, transfer station, vehicle depot and reuse shop, costs have been estimated at £8m (2022). This estimate would likely have increased. A new site in the North Fringe area would help support all the waste facilities across South Gloucestershire as housing growth increases. Feasibility studies have been undertaken into repairing the existing structures on the North Fringe site to provide just a transfer station and vehicle depot. This could be completed at a cost of approximately £3-4 million. This is seen as the minimum requirement to help the current operational capacity for the materials collected directly from households. We are now in a position to start this work with a further development required as a SORT IT recycling centre when further funding is provided. Total cost of splitting the development into two phases is greater than completing the work in one as existing facilities would need to be demolished to develop the full site.

East fringe

4.7 The new Local Plan allocates approximately 5,800 new dwellings on land in the Bristol East Fringe areas, with large new developments at north Warmley, around Shortwood and at North Lyde .Waste collections in this area are completed by the Cowhorn depot and waste and recycling is tipped at the Mangotsfield waste facility. The nearest SORT IT recycling centre for residents to visit is in Mangotsfield. The SORT IT recycling centre and transfer station are operating at near capacity. With the new dwellings in the Mangotsfield area and new properties in the North Fringe using this site it would add to capacity problems causing operational issues. This would include compliance to the Fire Prevention Plan if waste were piled up, increased queuing and reduction in recycling at the SORT IT recycling centre. A new waste facility in the North Fringe area would relieve pressure on this facility and allow the site to serve the new local population. Space at Mangotsfield SORT IT recycling centre is limited. If the waste depot, which is in the planning stage, is developed there is no additional space for the facility to expand. If the waste facility in the North Fringe area cannot be developed due to budgetary issues, there will be a need to locate a SORT IT recycling centre elsewhere in the area. Mangotsfield and Little Stoke SORT IT Centres do not have the capacity to service all the new and proposed developments in the north and east of the Bristol area.

Rest of the District

4.8 The new Local Plan allocates about 2,600 homes on various sized sites across the villages, the bulk (some 775) at Charfield. Residents of these homes will predominantly use the Sort IT centres at Thornbury, Yate and Mangotsfield. Waste collections in this broad area are in the main completed by the Yate depot and waste and recycling is tipped at the Yate waste facility. Thornbury SORT IT Centre has sufficient capacity to accommodate increased visitor numbers likely to result from proposed development in the vicinity. However, additional pressure will be placed on this site if/when used by residents in the North Fringe area and from the outlying areas such as Charfield, as it is less busy than Yate and Little Stoke and collects a full range of materials. Additional visitor numbers will place additional pressure on the operation of the site causing queues that will impact on accessibility to the on-site reuse shop.

4.9 The Yate waste transfer station was upgraded in 2017 to support service requirements at that time. However, with increased development, such as at North Yate (Ladden Garden Village), capacity of the site will be exceeded again. Handling increased quantities of waste and making space for any further waste segregation required by government legislation is likely to be difficult. The number of visitors to the Yate SORT IT recycling centre is already high with queues seen at peak time. This effects the operation of the site with access issues for collection vehicles and HGVs collecting waste. Local businesses to the site are also impacted by disruption from the queues resulting in complaints made to the council. A reuse shop would help to

divert some waste from disposal to recycling or reuse and relieve some capacity issues. Space for a reuse shop on site is however limited, but there are opportunities on a nearby site (which the council owns). The cost of building a reuse shop and expanding the site for segregation and increased quantities of waste would be design dependent but estimated (based on comparisons with other waste facilities) to be approximately £3-5million.

5. Conclusions

5.1 The council's 'Resource and Waste Strategy: 2020 and Beyond', sets out proposals for infrastructure development to support housing growth. In summary, further funding is required to develop the North Fringe site and the relocation of the Cowhorn depot to Mangotsfield. Development of the full waste facility in the North Fringe (SORT IT recycling centre, waste transfer station, vehicle depot and reuse shop) is considered a high priority to create capacity within the waste service to support housing growth across the whole district by reducing pressure on other sites. Therefore, the cost of the development cannot be limited to specific housing developments as it is required to relieve pressure from all other sites to enable them to accommodate housing growth in the primary areas they serve.

Funding available for these developments is:

- Section 106 - Scholars Chase, Land East of Coldharbour Lane - £134,297.55
- Approved Capital Programme CPNN - £1.7m
- Approved Capital Programme waste service - £1.83m
- Addition to capital programme – Waste Escrow - £1.78m

This totals £5.44m which is a shortfall of circa £9m if the two facilities are to be built.

5.2 The waste facilities at Mangotsfield and Little Stoke will bear the main impact of the new housing developments. Mangotsfield waste facility in particular will impacted by the close proximity of strategic scale urban extensions at Shortwood & North Warmley. This development will cause a disproportionate impact on the Mangotsfield waste facility. Both facilities are working at near capacity and there is a high likelihood they would not be able to manage the service demand which in turn will add pressure to the other waste facilities in the area.

5.3 The design and construction cost of the new facility in the North Fringe area which has already been purchased by the council was estimated to be approximately £8million (2022) but due to inflation will likely be several million above this figure now. The waste depot at Mangotsfield has construction costs of £3.3million with current costs at £1.42million for land purchase, designs and planning. This brings the budget required for the waste depot in the region of £5m. Additional funding of £9million is therefore required for both facilities.

5.4 With existing operational waste capacity reaching its maximum capacity, the service is unable to accommodate housing growth and now needs a step change in the provision. The development of the North Way site will allow the waste system to

accommodate the planned growth and build in capacity for further growth, until the next step change is needed when the capacity reaches its maximum.

5.5 Waste collection vehicles will be required to service all these new dwellings. There are 24,200 new dwellings which would require 3 refuse vehicles and 6 recycling vehicles to collect the additional materials from the households. The cost for these extra vehicles will be £1.6million.

5.6 Each household will need a set of waste collection receptacles. This will include two recycling boxes, a 140L refuse bin, a large food caddy and kitchen caddy based on current service provision. A set of receptacles cost £60 as of 2024. This would total £1.452m.

5.7 The impact of the additional 24,200 new buildings to the Waste Service totals £12million. This equates to a requirement of about **£500 per dwelling**. As detailed in this paper waste assets service the whole community and therefore it is not appropriate to charge them against a single development.

5.8 The council will need prudential borrowing to complete the development in advance of the houses being built to accommodate the growth. Any developer funding via section CIL & s106 agreements would be utilised to repay prudential borrowing. These estimated costs are subject to continual review.