Non-technical summary

i) Introduction

The Environment Agency is proposing to restore the Otter estuary, reconnecting it with its floodplain and creating approximately 55 hectares of mudflat and saltmarsh, and providing a better place for people and wildlife.

The original motivation for the Lower Otter Restoration Project (LORP) arose from a desire by the landowner, Clinton Devon Estates (the Estate), to manage the lower Otter valley as sustainably as possible in the face of a rapidly changing climate. The Environment Agency's involvement in the project arose from a statutory need to provide compensatory habitat for habitat losses in the Exe Estuary. The desire of these project partners is to improve the natural functioning, ecological health and environmental status of the river, demonstrate climate change adaptation and reduce risk to wildlife and public infrastructure under future climate change.

The natural environment of the Otter estuary has, for hundreds of years, been modified by humans. These changes have led to a disruption of natural processes with the river no longer able to adapt and move naturally across the floodplain as it once did, nor can it cope effectively with flooding events, which are more prevalent due to climate change. There is a strong argument to take action.

Risks if we take no action	Opportunities if we act now
• Continued flooding to public highway to South Farm • Continued flooding of Budleigh Salterton Cricket Club • Catastrophic breaching of embankments with potential for lack of funding to make repairs • Loss of public footpath access • Erosion of old municipal tip	• Secured and improved public access • Secured public amenities • Enhanced natural wildlife habitats • Restored natural processes • Restoration of 55 hectares of wetland habitat • Creation of compensatory habitat for habitat losses in the Exe Estuary • Otter estuary allowed to respond and adapt naturally to climate change • Enhancement of the area for environmental tourism • Funding available

ii) Planning and Environmental Impact Assessment

LORP has been subject to an Environmental Impact Assessment (EIA) in accordance with the provisions of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 and the Marine Works (Environmental Impact Assessment) (Amendment) Regulations 2007.

EIA is a process to assess the likely significant environmental effects of a proposed project together with ways to avoid or reduce any negative environmental effects. The findings of the EIA are presented in a detailed Environmental Statement. The Non-

Technical Summary, this document, describes the Scheme and summarises the Environment Statement in non-technical language.

The ES supports and informs the detailed planning application submitted to the Local Planning Authority, East Devon District Council and the marine licence application, submitted to the Marine Management Organisation.

iii) LORP vision and objectives

The Estate has been working in partnership with the Environment Agency throughout LORP's appraisal and design process. The project vision is:

A healthy, sustainable Otter estuary and river, well connected to its floodplain, with active natural processes and a range of typical habitats and species. Flood risk is understood and managed in a coordinated way. Access to a network of footpaths and trails is maintained and improved where appropriate. Local landowners and communities are engaged in and supportive of management.

The objectives for LORP are:

- Deliver more sustainable management in the face of climate change;
- Improve natural functioning of the Otter estuary; Improve the quality of habitats and wildlife;
- Provide a minimum of 14.5ha of compensatory intertidal habitat;
- Safeguard public access;
- Reduce risk of contamination from the old municipal tip;
- No increase in flood risk to property; and
- No impact on groundwater abstractions for drinking water.

iv) The Site

LORP is located within the floodplain of the Otter estuary, within the River Otter valley in Devon. The site lies directly south west of Otterton, directly east of Budleigh Salterton and approximately 6km east of the Exe Estuary (see Figure 1).

The entire site lies within the East Devon Area of Outstanding Natural Beauty. Located along the coast at the mouth of the estuary is the Dorset and East Devon Coast World Heritage Site and the Otter Estuary Site of Special Scientific Interest extends from this point to the tidal limit. The estuary and marshes support a wide variety of breeding and wintering bird species, including waders and wildfowl, and form part of a network of important feeding sites which includes the Axe Estuary (to the east) and the Exe Estuary (to the west).

Footpaths have been designated along all of the embankments, and at the western edge of the floodplain. All are popular, with the most well-used being the South West Coast Path, which runs along the embankment from Lime Kiln car park to White Bridge, where South Farm Road crosses the River Otter. South Farm Road crosses through the site and a former landfill lies to the south of this road. In the south of the site lies Budleigh Salterton Cricket Club. To the south of the site lies, Lime Kiln car park, a children's play area, skate park and a South West Water pumping station. A

South West Water sewer overflow pipe lies under the mouth of the estuary and the shingle bar.

Manmade changes to the river and estuary mean that, after heavy rainfall, flood waters cannot flow down the river channel to the estuary. Large fluvial floods overtop the embankments every few years, leading to flooding of the wider floodplain. This flooding can last for several days, because the culverts that drain the area are small and are restricted by the tide. In this situation both South Farm Road and Budleigh Salterton Cricket Club are under water. The pavilion for Budleigh Salterton Cricket Club has been known to flood up to its eaves. Footpaths are currently threatened and frequently damaged by flooding, a situation expected to get worse over time due to climate change. Water can also flow over the disused refuse tip. It is also possible for very high tides to overtop the embankments, although this is less common.

As our climate changes, with both rising sea levels and increased strength and frequency of storms, the aging embankments are becoming ever more vulnerable to breaching. In September 2018 a breach was narrowly averted, and the South West Coast Path was diverted for six months whilst a repair was implemented.

If the embankments fail, parts of the natural floodplain will be regularly inundated by the tide and public right of way will be cut. This will lead to infrastructure in the floodplain, including to the cricket club and South Farm Road, being compromised. Drainage will take time to establish, which could lead to standing water lasting several months. Failure would be a difficult scenario for local organisations to manage, with little funding likely to be available.

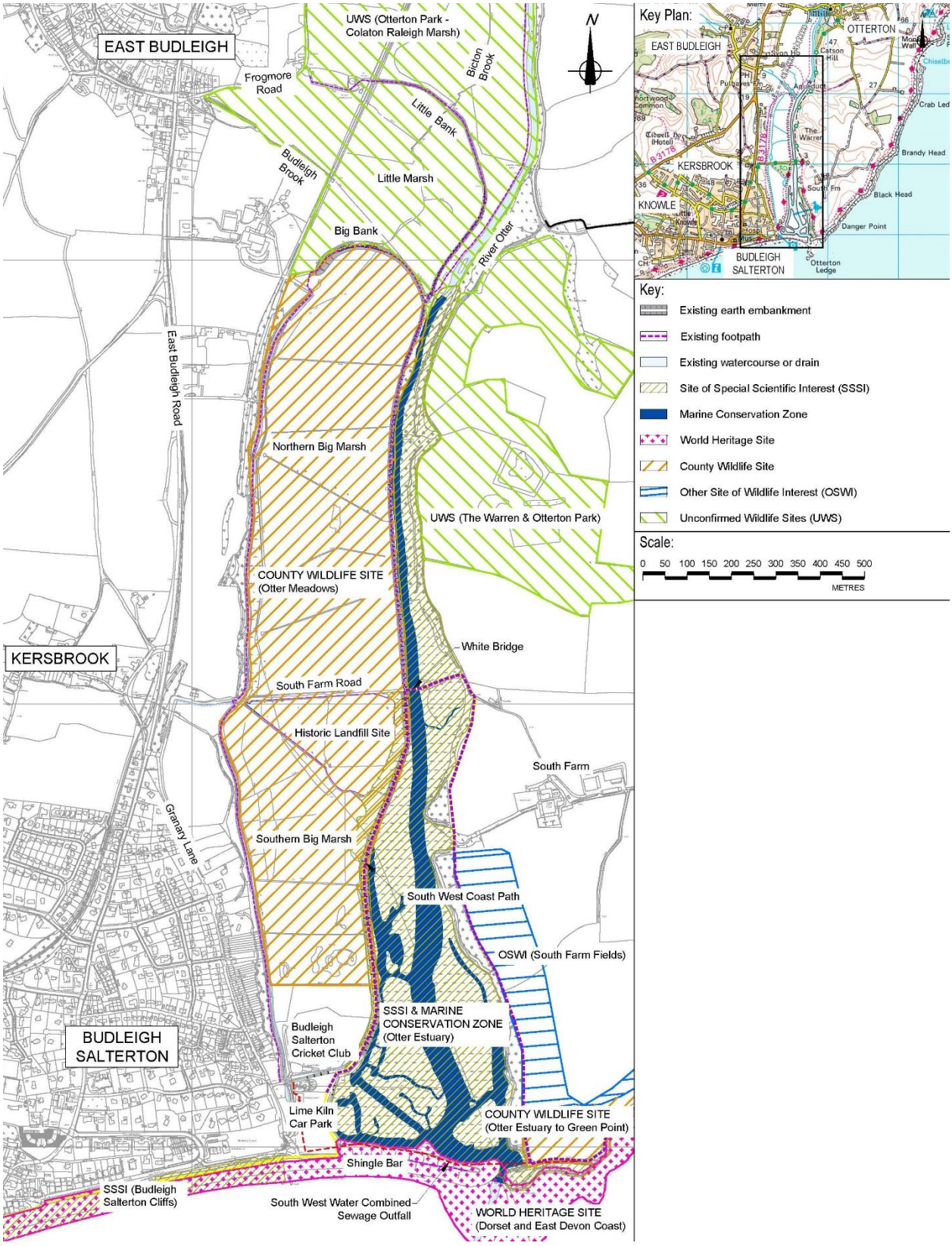


Figure 1 – Site Plan and Site Location Plan

v) Alternatives Considered

a) Habitat Creation Sites

The need to create intertidal habitat is to compensate for losses identified in the Exe Estuary Flood and Coastal Erosion Risk Management Strategy (the Strategy) (approved in September 2014). The Exe Estuary is a Special Protection Area, designated under the European Union (EU) Birds Directive and an internationally-designated Ramsar site. Part of the Exe Estuary is also a Special Area of Conservation designated under the EU Habitats Directive. Maintaining and improving existing flood defences, will result in the loss of European designated intertidal habitat caused by coastal squeeze (the loss of existing intertidal habitat in front of defences as a result of rising sea levels that drown out the habitat). This will adversely affect the integrity of the Dawlish Warren Special Area of Conservation and Exe Estuary Special Protection Area and Ramsar site. Under the Habitats Regulations, it is therefore a statutory requirement for the Environment Agency to create habitat to compensate for that lost.

Through the development of the Strategy several potential sites within the Exe Estuary were considered for compensatory habitat creation. From these a short list of sites was created, including on the Rivers Clyst and Kenn. Detailed investigations between 2013 and 2015 concluded that habitat creation at the Clyst and Kenn sites would not be feasible, and that there were no other suitable sites in the Exe Estuary.

The Otter Estuary was identified as a potential site, suitable for creating compensatory habitat and the principle agreed with Natural England. An agreement between the Environment Agency and the Estate, the landowner, was established as the objectives of the Estate for the Otter estuary aligned wholly with those of the Strategy.

b) LORP Options

The preferred options for LORP were identified through a staged approach, by:

- Developing a wide range of options – a long list of options including do nothing, do minimum and eight other options including creating a freshwater reservoir to a range of restoration options of the Otter floodplain;
- Screening out options considered to be technically, environmentally or economically unviable; and
- Developing the short list of options:
    1. Full Scale Restoration;
    2. Assisted Natural Recovery;
    3. Big and Little Marsh Floodplain Restoration; and
    4. Big Marsh South Floodplain Restoration.

The options appraisal concluded that the preferred option for the Scheme was short list Option 3 Big and Little Marsh Floodplain Restoration.

vi) Consultation

There has been a high level of stakeholder consultation, public engagement, professional advice and consultative work throughout the design of the Scheme. The Environment Agency has been working in partnership with the Estate, that has informed the long list and short list options, helped to identify the preferred option and contributed to the detailed design, mitigation and enhancements using their extensive knowledge of the site.

A Stakeholder Group was set up, providing an interface between the project team and interested parties, including community representatives, and have been involved in the development of the short list of options.

Since 2013 there have been eight project stakeholder group meetings and several public consultations held locally at community centres and at parish and town council meetings. These have been held to highlight the issues, understand stakeholder and public perceptions of the problems, assess their reaction to outline proposals and options, gather information on alternative strategies and to ensure the local community has had a chance to help shape the broad form of the project.

Since 2015 an essential component of the Scheme's communications work has been through its website (www.lowerotterrestorationproject.co.uk). This website places key documents in the public domain, including the project's rationale and vision, minutes of the Stakeholder Group meetings, the Risk Register, factsheets and frequently asked questions and proposed timelines. It also advertises key engagement events, with outcomes from public consultation available for viewing.

A long list of options was discussed with specialists from the Environment Agency and the Estate on 7th March 2017, and with the Stakeholder Group on 15th March 2017. With the exception of the Granary Lane residents group, the main stakeholder groups gave their conditional or tentative support for floodplain restoration through managed realignment.

From here, a short list of options was developed, and a public exhibition was held on 5th July 2017. The exhibition was attended by 144 people and 105 feedback forms were received, which helped inform the outline design of the scheme. 73% of responders were supportive of LORP objectives and 62% were most in favour of the option that has become the preferred option.

Going forward, in addition to the project website, the East Devon Pebblebed Heaths Conservation Trust (EDPHCT), the Estate and Environment Agency Facebook, Twitter and YouTube accounts will be used to provide regular updates about the project.

vii) The Scheme

The Scheme is presented on Figure 2 'Scheme Proposals'. The Scheme will:

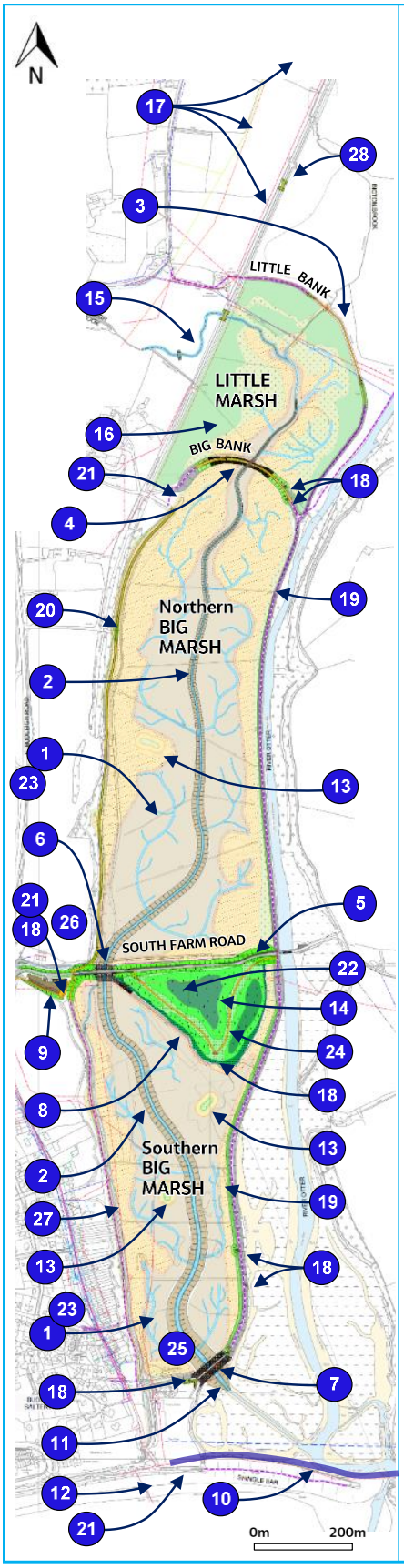
- Create 28ha of mudflats and 27ha of transitional marsh and saltmarsh;
- Create a new main creek channel 2km in length and associated outer creek channels (total of 6km in length) through the historic floodplain. Some outer secondary creeks will also include borrow pits and/or scrapes. The main creek will gradually reduce in width from 50m at the south breach to 5m at its furthest point in Little Marsh;

- Create a 200m wide breach in Little Bank and provide an improved lower level path surface across the breach;
- Create a 170m breach in Big Bank and provide an improved lower level path surface across the breach;
- Demolish and remove the existing Budleigh Brook concrete aqueduct section and create a realigned more natural meandering channel through Little Marsh, approx. 530m in length;
- Maintain a flow through the Trunk Drain to the south of South Farm Road on a falling tide;
- Create a new raised South Farm Road highway (approx. 2.5m above the existing road level), with a 25m wide embankment footprint, using site won excavated material and include a new 30m span highway bridge over the new creek channel. Rip rap stone protection will be installed beneath the bridge. The road along the existing alignment will be removed except the section which enables access to South Farm Cottages. This will protect South Farm Road from regular flooding which cuts off the South Farm community;
- Remove a small section of the existing landfill site in the far west corner, to allow construction of the new South Farm Road highway bridge. The remaining areas of the landfill site will receive additional fill material at varying depths (site won), to increase ground cover and further protect existing material within. The outer edges will have improved erosion protection measures installed. A mosaic of new woodland/grassland will be planted on top. This is important as the site is currently poorly capped and unprotected;
- Create a 70m wide breach through the River Otter estuary embankment (near Lime Kiln car park). The breach will have rip rap stone erosion protection installed. A short section of the existing estuary will be excavated to transition into the new breach. The existing footpath will be maintained over the breach with a new 70m span, 2.5m wide footbridge;
- Install new public information and warning signage at the Shingle Bar and Spit area; to inform of likely changing environment and risks. The existing lower path along the north edge of the Shingle Bar will be removed;
- Remove large groups of existing trees/woodland, scattered trees and long lengths of hedgerow in the floodplain area, and cut to ground level some areas of trees/vegetation at the outer edges of the floodplain; to enable construction of scheme elements or to mitigate disturbance to protected species before future tidal inundation;
- Plant new trees and hedgerows to the north of the site, areas outside of the zone of tidal inundation and on the historic landfill site area. These will replace those lost by the scheme. There will be improvements to existing hedgerows and infilling of gaps. Some areas of new vegetation will be planted for screening purposes for the new habitat areas;
- Install seven new viewing areas at various locations across the scheme to enrich visitor experience of the enhanced wildlife reserve resulting from the Scheme. One of these will involve replacing an existing platform along the SWCP;

- Create two new footpath sections from the new South Farm Road to the viewing area on the southern tip of the landfill site. These will act as a diversion of existing defunct footpath section in the lower floodplain which will become tidally inundated in the future;
- Create up to three high tide bird islands within the tidal inundation area, a positive improvement for bird life;
- Raise the existing footpath section between South Farm Road and Big Bank, on the western side of the floodplain, and improve the surfacing. Additionally, two short sections will be raised to a higher level, to provide safe areas during tidal inundation of the path for the public during emergencies;
- Create a variety of landscape features in the scheme area, such as information panels, sections of fencing and water filled ditches near paths to deter dogs and people;
- Divert the existing overhead power lines, which run west to east across the landfill site, underground through the new South Farm Road highway embankment, which will be a positive gain for the landscape and the AONB. These works will be in partnership with Western Power Distribution and the AONB;
- Create a new car park area at the south western end of the new South Farm Road, including new screening vegetation and a timber viewing structure, removing informal parking in the existing SSSI which is damaging to the site.
- The existing beach outfall culvert structure will remain. Its future operation and maintenance strategy will be monitored and reviewed in the next project phase.

Associated works that are not part of this planning application are:

- The overhead power line that lies along the western boundary of the site, south of South Farm Road, will be diverted underground in a raised embankment on the existing adjacent footpath. This is planned to be carried out by the upcoming FAB-Link project.
- Existing South West Water CSO pipe that crosses the estuary mouth will be relocated to the north and deeper under the estuary by South West Water (separate planning application).
- Budleigh Salterton Cricket Club will be located from its current location to the north of Lime Kiln Car Park to a new site to the north of South Farm Road.



1: Historic floodplain allowed to tidally inundate; leading to the creation of a total of approximately 55ha of intertidal habitat (consisting of 28ha mudflats, 27ha transitional marsh and saltmarsh).

2: Creation of a central tidal creek channel approximately 2km in length through the historic floodplain, from the new 70m wide breach up into Little Marsh. Connection to further secondary creek channels (totalling approximately 6km in length). Borrow pits and scrapes will be located at the ends of selected secondary tidal creeks.

3: Reconnection of the historic floodplain to the River Otter by creating a 200m wide breach through the existing embankment known as Little Bank and provide an improved lower level path across the breach.

4: Reconnection of the historic floodplain by creating a 170m wide breach through the existing embankment known as Big Bank and provide an improved lower level path across the breach.

5: Removal of a 380m length of the existing South Farm Road highway in the floodplain and replacement with a highway section south of the existing, raised approximately 2.5m higher on an earth embankment.

6: Creation of a new 30m span highway bridge, to allow the new tidal creek channel to pass beneath and extend to the north.

7: Creation of a 70m wide breach through the existing embankment, allowing the historic floodplain to tidally inundate. A new 70m span 2.5m width footbridge over the main breach, carrying the South West Coast footpath.

8: Removal of a small section of the existing landfill site in the far west corner, to allow construction of the new South Farm Road highway bridge. Installation of additional edge protection and capping to the landfill site.

9: Creation of new parking area; with space for up to 30 vehicles. New footpath links and information hub.

10: Existing SWW CSO pipe will be diverted by others (separate planning application). The estuary spit and mouth area will be allowed to evolve naturally. The existing lower path on the rear of the Shingle Bar will be removed.

11: A short length of the existing estuary approach channel to be increased in size; to allow transition to the new intertidal areas.

12: Operation and maintenance of existing beach outfall to be reviewed.

13: Creation of three high tide bird sanctuary islands.

14: Planting of new grassland and woodland habitat (approx. 3ha) on the historic landfill site, and the installation of a new section of footpath.

15: Existing Budleigh Brook to be realigned into a more natural form and location; reconnecting to the floodplain. Includes new culvert openings.

16: Existing Budleigh Brook aqueduct to be removed.

17: Planting of new and improved habitats; by infilling gaps of existing hedgerows, new hedgerow sections, new vegetation and woodland.

18: Installation of seven (one existing) public viewing areas or structures.

19: Planting of improved habitats by infilling gaps of existing hedgerows beside the footpath; also acting as screening.

20: Existing footpath to be improved and raised in height, to increase public safety adjacent to tidal water and provide farm access.

21: Installation public information and warning signage; to inform of likely changing environment and risks.

22: Diversion of the existing overhead power lines, which run west to east, underground through the new highway embankment

23: Removal of groups of existing trees/woodland, scattered trees and lengths of hedgerow in the floodplain area.

24: Diversion of existing footpath running to south of landfill onto the landfill.

25 & 26: Relocation of Budleigh Salterton Cricket Club (25) to new site (26) (separate planning application).

27: Diversion by others of power line that lies along the western boundary of the site, south of South Farm Road, underground in a raised embankment (separate planning application).

28: Flood relief culvert through disused railway embankment.

Figure 2 – Scheme proposals

viii) Construction, operation and maintenance

The Scheme is estimated to be constructed between January 2020 and March 2023.

Construction

A summary of the construction processes taking place in each phase is shown below. Multiple construction gangs will be working on various areas of the site at the same time.

Phase	Estimated Dates
Budleigh Salterton Cricket club works commence (part of a separate planning application)	Oct 2020
Stage one vegetation clearance	Jan 2020 – Feb 2021
Stage two vegetation clearance and Construction phase mobilisation	May – Jun 2021
Construction phase: • *Tidal creek excavations* • *General earthworks* • *Highway bridge foundation works* • *Footbridge foundation works* • *Big Bank breach works* • *New South Farm Road highway embankment earthworks formed* • *Footpath raising works*	Jul – Oct 2021
Construction phase: • *New South Farm Road highway embankment monitored for settlement over nine month period* • *Footbridge deck installed* • *Highway bridge deck and features installed* • *Small culvert structures installed* • *Service diversions* • *The estuary sewer pipe diversion works may commence early 2022* (separate to this planning application)	Nov 2021 – Jul 2022
Construction phase: • *New South Farm Road highway embankment completes; surfacing and features installed* • *New highway ties into existing road network* • *Existing Cricket club removal begins*	Aug – Oct 2022
Construction phase: • *Final creeks excavated.* • *Existing South Farm Road surface removed* • *Improvements to existing footpath embankments*	Nov – Dec 2022
Construction phase:	Jan – Feb 2023

Phase	Estimated Dates
• *Little Bank breach works* • *New Budleigh Brook channel connected; existing aqueduct removed* • *Main Southern breach works* • *High tide bird islands formed* • *Landfill area cover finalised* • *Final landscaping features installed* • *The FAB-Link project (separate to this planning application) is estimated to start in early 2023. It is not expected to clash with the final works of LORP.*	
Construction phase demobilisation	Mar 2023

The logistical details are presented below.

Site compound locations	The main site compound will be located on the southern side of South Farm Road on the existing landfill site. Three satellite compounds will be located to the south east of Little Bank, immediately west of the landfill site and in the north eastern area of Lime Kiln car park.
Site access	The majority of plant and materials will be brought to the site via the B3178, then South Farm Road to the main compound. Smaller and far less frequent plant and materials will use Coastguard Road, and Saltings Hill, to reach Lime Kiln carpark and the smaller compound. Temporary access tracks will be laid along the eastern boundary of the site (to the west of the SWCP), along the southern alignment of the South Farm Road and along the eastern boundary of the site to provide access for construction vehicles around the site. Passing places will be provided every 50m on the temporary access tracks. Material storage and treatment areas are proposed to the west of the site (near Granary Lane) and east of the River Otter.
Working hours	The majority of the works are expected to be completed between 07:00–18:00 Monday to Friday and 08:00-13:00 Saturday, with no working on Sundays and bank holidays. In general overnight working will not be allowed, with the exception of the new South Farm Road tie-ins to minimise disruption to traffic with the associated road closure. All material deliveries are expected to be completed between 10:00 and 16:00 hours, avoiding conflict with peak traffic periods. Commuting times for site staff is expected to be between 07:00–08:00 and 16:00–18:00. The main construction related movements are expected to take place during the day (08:00–16:00).

Operation and Maintenance

It is expected that:

- Devon County Council will be responsible for the operation, maintenance and public safety for the existing footpaths, the new pedestrian bridge over the southern breach and the new South Farm Road highway and bridge.
- East Devon District Council will continue to have operational responsibility for the Shingle Bar public areas and beach outfall.
- The Estate through the East Devon Pebblebed Heaths Conservation Trust will be responsible for the South Farm Road car park, viewing areas, fencing and land management of the site.

ix) Likely Significant Effects and Mitigation

The following section summarises the likely significant effects of the Scheme, both beneficial and adverse, for each environmental topic and mitigation required. For further detail please refer to the specific topic chapters (Chapters 6 to 14 in the main Environmental Statement). The significant effects are split between construction of the Scheme and operation which starts when construction is complete.

Population and Human Health

The enhanced viewing opportunities of the site and increased bird populations, through the creation of the saltmarsh and mudflats, will benefit both local users and visitors to the site. The Scheme will also result in improvements to local Public Rights of Ways including the South West Coast Path, the National Cycle Network Route 2 and Otterton Footpath 2 through reduced risk of flooding and longevity of recreational opportunities.

During construction, the Scheme will result in some adverse effects on the local population and recreational opportunities e.g. temporary diversion of public rights of way. These will be mitigated by regular contact with the local residents. However, the temporary diversion for the South West Coast Path (Budleigh Salterton Footpath 12) will not be of the same quality and therefore the less abled will be disadvantaged during the four month closure.

Despite mitigation measures to reduce the impacts, some residual effects on access will remain during the inundation of East Budleigh Footpath 3 and Otterton Footpath 1b on Big Bank and Budleigh Salterton Footpath 12. However, it is considered that the overall benefits of the Scheme outweigh these adverse effects.

Noise and Vibration

Noise and vibration impacts will only occur during construction but will not last long enough (10 or more days or nights in any 15 consecutive days or nights) to be considered significant. This is with the exception of the vegetation clearance works of the new car park which will create enough noise to cause a major adverse effect on the residents of South Farm Cottages. However, following mitigation by best practicable means, which consists of measures such as careful selection of equipment with silencers or mufflers where possible and shutting plant and equipment down when not in use for long than five minutes, the noise can be reduced to reasonable levels. The local community will be kept fully informed of the nature and timing of the works. All control measures will be detailed in the Construction Management Plan.

Biodiversity, Marine ecology and fish

LORP will restore the floodplain of the River Otter to a condition similar to that previously found prior to the construction of the embankments. Once established, LORP will provide an increased habitat resource for overwintering birds, benthic estuarine invertebrates and intertidal, estuarine and migratory fish species in the Otter catchment.

The biodiversity, marine ecology and fish impact assessment has identified that without mitigation there is potential for the Scheme to impact important ecological features for nature conservation and species protected by legislation.

Mitigation measures comprise, design stage avoidance of adverse impacts, best practice design, pollution control measures, general good construction practices, habitat protection measures, sensitive landscaping and mitigation planting. Protected species mitigation is in accordance with legal requirements and seeks to enhance the integrity of populations where possible to do so.

After mitigation, residual significant effects are anticipated due to habitat loss of grassland and swamp habitat, which are the qualifying features of Otter Meadows County Wildlife Site. This is due to the change in habitat required to achieve the purpose of the Scheme. Although avoidance and mitigation measures will be undertaken, like for like compensation for the loss of these habitats cannot be achieved. However, the habitats being created are of equal or greater value/sensitivity and equivalent scarcity and biodiversity benefit as those lost. Reinstating natural processes will result in the change of terrestrial and freshwater habitat into intertidal habitat, with long term, more sustainable benefits for species and habitats.

The localised and short term negative impacts of construction activities upon existing biodiversity and loss of habitats are balanced against longer term Scheme operation which has overwhelming positive impacts and benefits to the estuary and wider area, due to restoration of more natural environments, processes and enhanced habitats that will attract greater numbers and more varied wildlife.

There are multiple beneficial significant effects from the creation of saltmarsh and mudflat habitats on site and a more natural transition from intertidal to freshwater and terrestrial habitats. This will have a beneficial significant effect on the Otter Estuary Marine Conservation Zone, Otter Estuary Site of Special Scientific Interest, invertebrates (freshwater and marine), fish (freshwater and migratory), overwintering birds (including Exe Estuary Special Protection Area and Ramsar qualifying species), otters and harvest mouse from habitat creation.

Geology, Soils and Contamination

Overall the Scheme is considered beneficial for geology and soils as it results in a more natural river system and improved protection from flooding of the landfill, which will help to prevent pollution.

Contamination from general construction activities are to be mitigated through best practicable means which consists of measures such as tracking systems to control the movement of soil, including stockpile management, controlling groundwater in

excavations and spill prevention measures. All control measures will be detailed in the Construction Management Plan.

Significant adverse effects during construction and operation may occur from South Farm Road former landfill to groundwater/surface water in the new river channel. This will be mitigated through construction of a physical barrier separating the river channel and the eastern area of the landfill. Any remaining contamination will not be significant.

Water, Geomorphology and Hydromorphology

The following operational impacts have been identified as having beneficial (significant) effects on the water environment and no mitigation measures are required:

- Geomorphological processes on the shingle barrier and ebb tidal delta and the World Heritage Site;
- Geomorphological processes on the Otter Estuary; and
- Decreased flood risk to the receptors adjacent to the Otter Estuary floodplain

The following impacts require mitigation to reduce the effects to less than significant:

- Increased suspended solids and/or chemical contamination causing potential surface water contamination. These will be mitigated through controls on construction activities.
- Loss of supply from Pulhayes Farm licence abstraction supply. This will be mitigated through the relocation of the supply and sealing of the spring chambers.
- Potential impact on abstraction borehole water quality of Otterton boreholes and the Otterton Sandstone Principal aquifer. A groundwater monitoring strategy will be produced, and further ground investigation will be undertaken to determine whether additional mitigation in the northeast area of the Scheme is required.
- Increased tidal flood risk under projected climate change scenarios to the Trunk Drain drainage assets plus Frogmore Road and adjacent pumping station and substation. These will be mitigated through a managed adaptive approach to asset resilience in future.

Landscape and Visual

The Scheme is likely to have several minor to major beneficial landscape and visual effects on the LORP site. Initially changes to the local landscape will be inevitable during construction due to the loss of vegetation and trees in the footprint of the construction works and the temporary presence of construction equipment and machinery. Vegetation will be retained and protected from damage as much as possible.

Once LORP is operational the views will be quite different from the reclaimed farmland that exists there currently. The Scheme will provide landscape improvements through the restoration of natural wetland habitat which will enhance the landscape character of the area.

Minor adverse visual effects on local residents and users of the public rights of way will be caused by the new car park, however trees and shrubs will be planted to mitigate for these changes.

Historic Environment

Deposits of potentially important historic environmental interest may be affected by excavating the tidal creek and constructing bridge supports at South Farm Road. This is to be mitigated through the sampling and analysis of these peat deposits to determine their age. Further investigation may be required depending on the results. Groundworks for the Scheme, in particular the excavation of the tidal creek and outer creek channels, have the potential to impact on previously unknown archaeological assets resulting in damage or complete removal (if present). An Archaeological Mitigation Strategy will be produced and approved by the Devon County Archaeologist before construction works are undertaken. This Strategy will detail the programme of archaeological mitigation to be implemented before or during construction e.g. geophysical surveys, historic building records and watching briefs.

Traffic and Transport

Construction of the scheme will result in no significant impacts, although there will be minor adverse effect on roads resulting from small increases in traffic and a reduction in parking capacity. These will result in effects lasting for a few months rather than for the entire duration of the construction programme.

There are no significant impacts resulting from operation of the Scheme. However, there are long term beneficial effects arising from:

- South Farm Road being less prone to flooding, because it would be raised on an embankment;
- Reduced risk of collisions and improved public safety resulting from improvements to South Farm Road and management of existing informal parking; and
- Formalised parking at South Farm Road.

Cumulative Effects

There is an opportunity for a receptor (such as a local resident) to be affected in multiple ways by LORP (intra-project cumulative effects). Temporary adverse effects have been identified for the construction phase, and permanent beneficial effects for the operational phase of the Scheme. The short-term adverse effects (noise and visual intrusion from construction activities on users of nearby public rights of way and residents) would be outweighed by the long-term beneficial effects from the more extensive saltmarsh and intertidal habitats.

LORP has also been assessed in combination with other large projects expected to occur within the Otter valley at the same time (inter-project cumulative effects), specifically the FAB Link project, the relocation of the Budleigh Salterton Cricket Club and the installation of a replacement South West Water Combined Sewer Outfall pipe in the Otter Estuary. The timings of these projects are uncertain and therefore we have considered the worst case scenario, assuming construction will take place at the same time (although works for the Scheme and FAB Link would seek to avoid being in the same specific location at the same time). There will be some adverse effects such as noise and visual impacts during construction only. No significant operational inter-project effects are anticipated.

Mitigation for cumulative effects during construction relate to maintaining good communication between the developers and residents to help limit concern and to allow opportunities for sensitive phasing and planning of works. Other measures are good practice measures such as maintaining tidy construction sites and the use of

screening to limit visual intrusion. LORP and all other projects will have their own Construction Codes of Practice and Construction Environmental Management Plans to adhere to.

x) Conclusion

The Scheme will provide compensatory habitat for losses identified in the Exe Estuary Flood and Coastal Erosion Risk Management Strategy and will also result in multiple local beneficial effects including creation of saltmarsh and mudflat habitats, reduction in flood risk, and improvements to amenity, recreation and the landscape at the Otter Estuary. The Scheme will also support sustainable management of the lower Otter estuary in face of climate change and sea level rise.

Mitigation has been proposed to minimise identified significant adverse impacts as far as possible. The Scheme aligns with the principle of sustainable development by seeking to meet the needs of the present without compromising the ability of future generations to meet their own needs.

xi) Inspection of documents

The Environmental Statement, and Non-Technical Summary, together with the plans and supporting information, will be available for inspection on the following website https://planning.eastdevon.gov.uk/online-applications and the planning documents will be signposted to on the project website www.lowerotterrestrocationproject.co.uk. Due to Covid-19 restrictions only an electronic version will be available on the East Devon District Council planning website.