

TEAM2100 Canvey Island Southern Shoreline Project Frequently Asked Questions

Background:

The Canvey Island Southern Shoreline project will renew and improve the erosion protection on the seaward face of the tidal defences, known as revetment, over a 3km stretch between Thorney Bay and to the north of Leigh Beck pumping station, immediately eastward of Beveland Road.

This project will better protect the Island's tidal defences against erosion and extend its useful life to 2070 considering increasing sea levels due to climate change. These works extend the high standard of tidal flood risk protection provided by the Canvey Island tidal defences into the future, a key aspiration of the Thames Estuary 2100 Plan. The project is investing up to £75M of government funding over 2.5 years to deliver this scheme. This is the single largest investment in Canvey Island's tidal defences since they were raised in the early 1980s.

While we carry out this essential work, we will also introduce some additional improvements, which will include improved access to the seaward side of the tidal defences allowing us to carry out future maintenance activities in a more efficient manner. The project will also deliver:

- localised biodiversity improvements e.g., flowering grass seed mixes and habitat rock pools
- amenity enhancements e.g., new steps leading to the beach and foreshore areas, project information boards and way-finding markers
- improved public access along the seaward walkway by widening passing places at known "pinch points" such as the base of existing steps and ramps

Revetment Works

What are you doing to the revetment?

We are renewing and replacing the current revetment over a 3km stretch between Thorney Bay (the project's westerly extent) and to the north of Leigh Beck pumping station, immediately eastward of Beveland Road and introducing additional improvements. The revetment, which is one element of many that make up the overall flood defence that protects the community, is currently a variety of different materials but mainly small concrete blocks known as "Essex blocks". These are laid on the existing seaward slope of the tidal defence and are held in place via a grouting material.

What is the life expectancy of the new revetment?

The new revetment will last approximately 50 years so while we know there will be disruption to the community when we carry out this essential work, we won't be back to carry out significant works in this location for a while. Upon completion, this project will ensure that the existing standard of tidal flood risk management is sustained to 2070.

Will the new revetment be different and, if so, what difference will we see?

The new revetment will consist of Open Stone Asphalt (OSA). OSA is a revetment system that provides erosion protection to tidal defences using a layer of bitumen bonded aggregate. The

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material consists of small stones, the quantity of bitumen is regarded as underfilled which means rather than all the voids between the stones being filled with bitumen, the stone is only coated which then binds all neighbouring stones to each other providing a consistent and strong bond. The advantage of this underfilling is that whilst the strength is maintained the system remains porous which allows for advantageous engineering properties within the coastal environment including wave absorption.

The OSA is being laid at a shallower angle than the current revetment. This means that the new revetment will extend further towards the sea than it does at present, however we intend to keep the existing beach material so that there will be no significant detriment to the amenity benefits that the existing beach material currently provides along the frontage.

Why does the revetment need to be cleaned before we start work on it?

The revetment needs to be cleared of seaweed and other marine growth to ensure a good surface to interface with the new revetment material where it is being overlaid. If we leave the material in place, we would increase the risk of voids being formed, and local failures occurring in the new revetment.

What will happen to the old revetment that we remove?

In areas where the old revetment had failures in the past or where survey work indicates there may be voids forming, we will need to remove it, fill any voids and install the new revetment. We will remove this material from site and send for processing and disposal at an appropriately licenced waste facility.

Why are you carrying out these works?

Canvey Island is very low lying, ground levels are approximately two metres below Mean High Water on Spring Tides (MHWS) so the tidal defences play a critical role daily to manage tidal flood risk to people, property and infrastructure on the Island.

Sections of the current revetment can trace its origins back to the 1930s, and the revetment is now reaching the end of its life. Whilst we actively carry out regular visual condition inspections of the tidal defences, along with our ongoing maintenance activities, damage to the current revetment can be unpredictable and sudden.

The works currently being delivered by the Canvey Island Southern Shoreline revetment project seek to provide a cost-effective revetment solution both now and into the future as well as improving public access along the frontage and improving local biodiversity.

Wouldn't it be cost-effective to continue to repair it?

The revetment is now approaching the end of its useful life as the number of defects observed during our routine visual condition inspection of the assets are increasing. Key defects found with the existing revetment include:

- The bottom of the revetment, where it meets the foreshore, is known as 'the toe'. This fails when foreshore levels drop

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- Loss of grout material between the revetments
- Gaps form under sections of revetment where the supporting clay is washed out on the tide once grout material is lost

It is difficult to predict when and where such failures will occur as the cause of these problems is often underneath the revetment itself. Therefore, failures of the existing revetment can be sudden, as seen along the Chapman Sands frontage following a storm during the winter of 2013/14.

All these challenges mean that continuing our existing, reactive, patch-repair approach is not a cost-effective use of public money compared to the proposed project.

Will the new proposal have an impact on the existing beaches?

We will have to temporarily remove the existing beach material for the relevant phase of the works. We will construct the new revetment and then replace the beach material to the same approximate level and profile.

As the new revetment is placed at a shallower angle than the current revetment, this will move the beach material 4-5 metres further seaward from its current position.

Immediately following construction, the exact level and slopes may vary along the frontage but the overall beach area at mid-tide is expected to be similar as the same amount of material will be retained. The relocated beach level will return to similar levels and footprint as natural processes will re-distribute the beach material.

The beach profile will behave in a very similar way and provide similar levels of amenity benefit. However, the beaches along the southern shoreline are very mobile and do naturally, constantly, change position and shape.

Will the scheme upgrade or provide more groynes?

We are not replacing or modifying the existing groynes in any way, nor building additional groynes. The new revetment will be sealed around the existing groynes.

The existing groynes do not appear to retain beach material for more than 15-30 metres alongshore. This is seen as the beach between Fisherman's Corner and the western tidal pool is holding a reasonably straight line, width and level - suggesting that the groynes are not important for its overall stability.

As the existing groynes extend seaward of the existing beach material and are up to 1m higher than the existing beach material, they do currently have some additional capacity to retain more beach material. This means they could accommodate a beach seaward and higher than the present profile.

We have discussed how the new revetment would interact with retained beach material with Castle Point Borough Council during the initial development of the scheme's design. The new revetment will provide an opportunity for any future amenity feature changes led by partners.

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How long will your work last for?

We began setting-up the main and first satellite compounds in January 2023 and these were completed in mid-April 2023. Work to lay the revetment began in Thorney Bay in May 2023 and we currently anticipate that it will take around two-and-a-half years to deliver all the required works over the 3km length.

Why will the work take over two years?

There are several reasons for the long duration:

- challenges of delivering such a vital flood risk management project over a long stretch of shoreline.
- working during suitable low-tide periods, which vary daily and needs careful planning.
- need to follow necessary restrictions on when we can work along the eastern extent of the scheme, north of Leigh Beck pumping station as it borders the environmentally sensitive Benfleet and Southend Marshes area which carries several national and international habitat designations.
- need to plan for working around the challenges of very popular amenity frontage from Thorney Bay to Concord Beach.

Construction Phase

How will the new revetment be constructed?

We will widen the top of the existing tidal defence on the landward side so the construction plant can use it during the project. The new revetment will either be placed over the existing revetment where we are confident there are no gaps underneath it, or the existing revetment will be removed entirely. If the existing revetment is left in place, then we will prepare its surface by removing any existing seaweed. The activity will be determined by investigations into the revetment and what's required. Once the surface is prepared, Lean Sand Asphalt (LSA) will be laid down followed by a layer of the Open Stone Asphalt (OSA). Both layers will be laid by a long reach excavator on the landward side with smaller plant and operatives spreading the material as required on the seaward side.

Some of the design elements in the scheme involve concrete works, with some work carried out on site and other work being produced off site and then brought to site.

Once the revetment has been formed, the landward embankment will be returned to its pre-project state and the works area made good. The footpath along the crest of the landward embankment will be reinstated, with improved surfacing from Thorney Bay to Chapman Sands.

How will you minimise the impact on residents and visitors?

We have developed a proposed construction methodology which will move along the frontage in phases over the period of the works. This means works will be in any given location for a much shorter time.

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The construction phase has been planned around the known challenges to the scheme of a popular amenity frontage and environmental sensitive areas, alongside suitable low-tide windows.

Will the seafront walkway be shut during construction and what about the businesses and accessibility for disabled users?

The nature of the work means we need to close the seafront to carry out the work. We are working in phases so we can minimise the disruption while we carry out this essential work. The current plans do not include closing the whole seafront at once and for the whole summer.

When will be the busiest times for deliveries?

The busiest times for deliveries will be between 10am - 2pm daily, as we are keen to reduce the frequency of deliveries during school drop off and pick up times (08:30-09:30 & 14:30-16:00)

Which roads will you use to reach your compounds and the work site?

A traffic management plan was submitted as part of the planning application which included delivery routes. More details about the compound areas can be found on the website: [Canvey Island southern shoreline revetment project - information page - Environment Agency - Citizen Space \(environment-agency.gov.uk\)](http://www.environment-agency.gov.uk/canvey-island-southern-shoreline-revetment-project-information-page)

We will install a temporary haul road between the Main Compound and Satellite Compound 4 to minimise the usage of the local roads during works at the eastern end of the frontage.

Why can't you carry out works from the seaward side?

The most cost-effective way of delivering the remedial works along the southern shoreline is to bring in goods and take waste away via a landward approach. The project considered access from the estuary; however, the shallow profile of the shoreline would mean that a seaward approach would lead to a significant amount of temporary works along the revetment toe and on the foreshore and that would not only be high cost but would also damage the local natural habitat.

Working hours

During working hours, I am concerned about the noise from reversing sirens on plant.

We are working with our suppliers to ensure that the use of reversing sirens and other awareness devices is limited to only when it is strictly necessary.

What are your working hours and days?

Our working hours are governed by the planning permission conditions for each site compound.

Revetment works are fitted into the low-tide window, meaning works will take place over an approximate 5-hour period, anywhere between 6am-10pm.

However, we will only be working the low tide window during these hours and not the full period for example, if it's an early tide and we start at 06:00 then we would not work all the way through to 22:00

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Construction works on the landward side of the sea wall to take place in regular working hours (8am-6pm Monday to Friday).

Road network

What will be the impact upon the road network and restoring any defects caused to the works?

We have conducted a pre-condition roads and street furniture survey before, and Balfour Beatty will monitor throughout. This activity is a condition of our planning application and lists the roads we have surveyed.

Why do you need compounds?

The main welfare and site offices are within the main compound. These provide all the facilities necessary to support the workforce delivering the project and will be present throughout the entire length of the project. To deliver the works efficiently and in the shortest possible timescale we will be constructing some aspects of the project away from the tidal defences and install them once they are ready.

The satellite compounds are away from the main compound. These compounds will exist for a much shorter duration than the main compound and would support work on a nearby section of the overall project. These satellite compounds will be close to the works area allowing local control of the OSA and LSA materials. Without this control the quality of the final product could be compromised. The satellite compounds will also reduce vehicle movement along the Eastern/Western esplanades and Marine Parade and create a much more efficient construction.

What are the site compound locations?

The site compounds are: Grassed area east of Eastern Esplanade, Grassed area east and west of Fisherman Car Park, Seafront Car Park and Grassed area to the east of Beveland Road.

Why does the compound include parking spaces?

The compound site includes parking for site workers to reduce the impact upon local public car parking areas. This helps reduce the disruption to residents who may have limited parking opportunities.

Were other sites for the main compound proposed and considered?

We considered a range of options, including the Labworth car park, Land off Ross Common Way, the former Chapman Sands Sailing Club before deciding on the locations we have now. This included considering all available open space along the southern shoreline as well as other locations elsewhere on Canvey Island. The current arrangements are those that provide the minimum level of disruption, minimise site traffic and provide the best value for money for the taxpayer.

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What about the impact upon properties for vibration associated with vehicle/plant movements in the compound?

We have carried pre-condition surveys, which determine movement and measure cracks. Also, during the works, Balfour Beatty will undertake vibration monitoring. Property surveys, a condition of planning, will be carried out. We do not anticipate our works to cause significant, sustained vibrations.

What about the noise that will be suffered by residents during the demobilisation and “breaking up” of the hard surface of the compound?

We will work to minimise the amount of noise to residents. This will include an increase to the level of acoustic blankets along Athol Close, Leigh Beck Lane and Marine Parade.

Regarding plant movements out of the eastern gate of the main compound, how will these be conducted safely given proximity to the playground?

Ensuring the safety of both the public and our own workforce is of the highest priority. There will be a speed limit imposed and secondly the haul roads will be totally segregated by Heras fencing or another form of barrier. We will also have people looking after the segregation and that crossing arrangements are kept intact throughout.

Can we keep the “storage tanks” under the compound once the works are complete?

We will not be able to do this because leaving the tanks causes a couple of issues,
a) the system needs to be maintained so add a burden when not needed and
b) leaving the drainage in could drain the existing soils and cause the grass to die. This serves no flood risk benefit to people and property as the hard standing it mitigates will be removed post-scheme and reverts to greenfield.

New passing places

To ensure plant can move safely along the frontage, we will widen the riverward maintenance track at several locations where the existing 3m wide access track is reduced by access steps, ramps, and shelters. We will produce this widened track using an extended concrete paving slab cast over a reprofiled slope using Lean Sand Asphalt (LSA) fill. These passing places would allow unimpeded maintenance access along the existing frontage on the riverward side of the wall.

Other works

If you’re renewing and replacing the revetment what will happen to the steps?

As the revetment is approaching the end of its life, we need to replace it or renew it. The new revetment is being laid at a shallower slope angle to ensure it lasts until 2070 and the foreshore steps need replacing as they also are at the end of their life and new steps will further improve safety.

As well as replacing the revetment, what other works will you be carrying out?

As well as the replacement of the revetment, some access improvements will be added, including the widening of the seaward maintenance track at some of the pinch points and the

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replacement of some of the seaward foreshore access steps. The completed works will give users an improved experience. We're adding information boards for visitors and localised biodiversity improvements, such as flowering grass seed mixes and habitat rock pools.

Maintenance Access Ramp

Inclusion of maintenance access ramps over sea wall located at Disabled Car Park and Chapman Sands Jetty, including flood gate widening at the disabled car park ramp.

The scope of this project includes the improvement of access to the riverward maintenance track from the landward side of the wave wall. This will be achieved via the construction of two access ramps at two flood gate locations. These ramps will be formed of structurally connected precast concrete wall and deck units on an insitu reinforced concrete base slab in place of the existing pedestrian ramps. At one of these ramp locations the flood gate will also be widened. The ramp units are to be founded on piles driven through the existing maintenance track/embankment.

Can the works look at the gradient and surfacing of the “disabled” access ramps onto the wall?

The surfacing of these ramps will be restored to as-built condition at the end of the works and where practical will be improved.

Chapman Sands Jetty Removal

The interaction of the existing Chapman Sands jetty with the new revetment has been discussed several times since summer 2021 with Castle Point Borough Council, the current owner of the structure.

A point in the scheme's design was reached in 2021 where a steer was required from Castle Point Borough Council, the asset owner, regarding the longer-term future aspirations for the structure. The revetment works once proposed a partial temporary removal of the jetty to construct the new revetment but reinstatement required significant design work and re-introduced notable health & safety challenges. The decision was made by Castle Point Borough Council for a full removal of the jetty structure to foreshore level as (a) the structure would require ongoing public funds to carry out necessary future maintenance activities and (b) the structure no longer serves a maritime function.

In the spirit of collaboration, the TEAM2100 Canvey Island Southern Shoreline project offered to carry out the removal of the jetty structure to foreshore level on behalf of Castle Point Borough Council without charge. This offer was made given (a) the long-term site presence of large plant and workforce delivering the revetment and associated works and (b) the need to remove some of the structure to build the new revetment - meaning this activity was at “nil-cost” to the project itself.

Castle Point Borough Council accepted the offer for the removal of the structure as part of the works but advised that a demolition license would be required in advance of the site works. A license was duly applied for and issued to us in May 2022.

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For further enquiries regarding Chapman Sands jetty please contact Castle Point Borough Council via info@castlepoint.gov.uk

Environmental and area considerations

What environmental improvements will there be?

- The owners of the property where bats were sited kindly allowed us access to their rear garden so that we could carry out a Preliminary Roost Assessment (PRA) of the tree. Our ecologist who carried out the PRA did not identify any features to show that bats are roosting in the tree.

Our lighting strategy for the compound has been designed so that all lighting will be facing down and inward, onto the site compound. This will limit any disturbance to any bats that are using your residential gardens and the surrounding area to forage.

- Information boards: install boards with information on local history, the designated site, or the Thames Estuary. These could be developed with local community groups.
- Improvements to the public footpath on the landward side of the sea wall (currently has a mixture of surfaces): accessibility improvements by surfacing the entire length of footpath following construction completion and using an improved surfacing material rather than just reinstating to match the existing;
- Art/ecology murals: patterns/textures on the walls of the new maintenance access ramps on the riverward side and on the wingwalls of the foreshore steps to add interest and allow wildlife to grow.
- Improved biodiversity on the landward embankment: use floral seed mix with low-growing wildflowers and grasses when reinstating the embankment.
- Restoration of Golden Samphire habitat at the eastern end of the frontage.

How will you protect the immediate environment while you work?

The project area is next to Benfleet and Southend Marshes at the eastern end, which is an internationally important site for habitat and wildlife and is designated as a SPA (Special Protection Area), SSSI (Site of Special Scientific Interest), and Ramsar (a Ramsar site is a wetland site designated to be of international importance under the Ramsar Convention).

The western portion of the project area contains a very well used public amenity front with beach areas, tidal pools and a host of amenity features and services.

We have carried out an environmental assessment of the potential impacts of the project and identified any required mitigation. To avoid disturbing overwintering birds, work along the eastern frontage next to the designated site will be carried out outside of the winter period.

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Work has been planned to minimise disruption to the local community, visitors, and businesses. Measures will be in place to control noise and dust, and to minimise the risk of pollution. Archaeological fieldwork (geophysical survey) was undertaken in November 2022 and also earlier in 2023 along the shoreline to help identify any required mitigation.

Where can I find the Environmental Assessment Report?

Please see the link to the Environmental Assessment Report which can be found the Environmental Agency Website: [Canvey Island southern shoreline revetment project - information page - Environment Agency - Citizen Space \(environment-agency.gov.uk\)](https://www.environment-agency.gov.uk/canvey-island-southern-shoreline-revetment-project-information)

There will be a loss of biodiversity for 2.5 years at the main compound – what can be done to improve it, for example, tree planting?

We are working with the local authorities and residents to identify opportunities for local improvements to biodiversity that can be left in place once the scheme is completed.

What will happen to the memorial benches whilst works are taking place?

We will temporarily remove the benches and place them in a secure location whilst carrying out works close by. Once we have completed our works, we will then replace the benches in their original position.

Will the B17 memorial garden and signage be protected?

We will protect this area during the works. It will however be necessary to temporarily move the memorial on the seawall to allow works to take place, however it will be reinstated once works in this area are completed.

There will be a loss of parking for the cinema over two years.

Our satellite compound opposite the Moviestar Cinema will only be in places between the start of October 2023 and the end of April 2024 and again in 2024/25. We have worked with the both the owner of the car park and cinema as well as Castle Point Borough Council to minimise disruption for car park users. Alternate parking will be available in the adjacent Lubbins car park.

How will you protect the existing murals on the seawall?

We have designed special screens to ensure the murals are protected where possible. We have also spoken to Friends of Concord Beach artists who maintain most of the murals about what could be done to touch up any murals should it prove necessary. We will keep them informed as part of our on-site stakeholder management.

Drone use

We use drones across the project, frequently operating beyond the perimeters of our sites. Their primary functions include capturing visual data, facilitating pre-condition surveys, conducting as-built surveys, contributing to logistics planning, monitoring project progress, and addressing security concerns on-site.

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All our drone operators, referred to as pilots, undergo rigorous training, hold CAA registration, and adhere to all regulations governing commercial drone usage, which are contingent upon the drone's size and weight.

Community and Stakeholder Engagement

We are keeping residents, partners, stakeholders like the councils, the MP and interested groups up to date through a variety of methods and via the dedicated information page to ensure they are aware of the work and our plans:

- Public drop-ins
- Regular newsletter
- Social media posts/updates
- Information on site hoarding
- Dedicated project webpage
- 3-week look-ahead for early morning or late evening tidal work
- Monthly surgeries
- Dedicated community liaison officer

If you wish to be added on our mailing list, please contact Param Kingston-Kaur email: **TEAM2100canveyrevetment@jacobs.com** or call on **07597 799168**

Who have you been working with in the community so far to help shape the plans?

Development of the project's design work has taken place over several years in consultation with Castle Point Borough Council, Canvey Island Town Council as well as wider members of the Castle Point Regeneration Partnership and local councillors. We have also engaged with several local business owners as well as residents and community groups such as Friends of Concord Beach and Thorney Bay Watch.

Is there a dedicated phone number to call to speak to someone during the works?

There is an appointed Community Engagement Manager, Param Kingston-Kaur, who is the point of contact for the local community. Param will handle any complaints or queries that the local community may have on 07597 799168 or TEAM2100canveyrevetment@jacobs.com

Will there be any apprenticeship opportunities for the local community?

We are still finalising what working opportunities will be available via Jacobs and Balfour Beatty. If you provide us with a copy of your CV and contact details, we can contact you to provide an update. Please email TEAM2100canveyrevetment@jacobs.com

Will there be help offered to us if we must close our business?

Our Estates and Surveying team, Dalcour Maclaren, acting on behalf of the Environment Agency, will be best place to speak to you regarding the possible business loss claim. Please email: TEAM2100canveyrevetment@jacobs.com to find out more information.

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Sea wall

Will you be carrying out any work on the vertical sea wall?

No work will be carried out on the vertical sea wall. The sea wall is in good condition, the replacing of the existing revetment will further protect the sea wall.

What condition is the vertical sea wall in?

The sea wall is in good condition. The replacement of the existing revetment will further protect the sea wall.

Will the new revetment surface be slippery?

No. The revetment surface will be a similar structure to that of a surface of a road.

Marine Parade

Marine Parade is owned by the individual frontages who don't necessarily want to see improvements to its surface, as that will attract "boy racers" into the area.

It is currently our intention not to use Marine Parade, we will construct and use a temporary road south of Marine Parade.

Marine Parade – what is the future liability for maintenance if work is carried out to it.

We will not be using Marine Parade to deliver the scheme.

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