Deal Sea Defences
Environmental Statement
Non-Technical Summary
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Your environment is the air you breathe, the water you drink and the ground you walk on. Working with business, Government and society as a whole, we are making your environment cleaner and healthier.

The Environment Agency. Out there, making your environment a better place.
This Environmental Statement, and the Environmental Impact Assessment (EIA) carried out to identify the significant environmental effects of the proposed development, was undertaken in line with the EIA Quality Mark Commitments.

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Introduction and background

The Environmental Statement (ES) has been produced to document the environmental assessment of the Deal Sea Defences scheme. This Non-Technical Summary provides a concise summary of the ES to inform the reader on the findings of the assessment. The proposed scheme seeks to improve the standard of protection (SoP) from flooding by sea for the town of Deal.

The town of Deal is located along the east coast of Kent, roughly halfway between Dover Harbour and the Isle of Thanet. National Grid Reference: TR 378 523. See Figure A for location and key environmental designations.

The Pegwell Bay to Kingsdown Flood and Erosion Risk Management Strategy (the Strategy) (approved in 2008 by the Environment Agency’s National Review Group) identified that the preferred strategic option for the future management of this coastline is to improve the current standard of protection (SoP). Under the improve option, the current SoP will be raised to achieve the required standard for the land use category and to ensure that these are met throughout the life of the coastal defence strategy.

Whilst the Deal Sea Defences scheme was previously developed alongside of the Sandwich Town Tidal Defences scheme the two schemes have been separated for project appraisal and delivery due to there being no known interdependencies or environmental in combination effects.

The Existing Environment

Parts of the study area are subject to international and national nature conservation designations. The shingle beach north of Sandown Castle forms part of the Thanet Coast and Sandwich Bay Special Protection Area (SPA), Ramsar site, Sandwich Bay Special Area of Conservation (SAC) as well as the Sandwich Bay to Hacklinge Marshes Site of Special Scientific Interest (SSSI). Both the SAC and SSSI extend further inland across the Royal Cinque Port Golf Course (See Figure A). The scheme extent comprises part of a conservation area and there are several listed buildings and two scheduled monuments present. The hinterland is predominantly urban, with the exception being north of Sandown Castle where a golf course is located immediately landward of the defences.
Figure A – Location plan and environmental designations

Legend:
- SCHEDULED MONUMENT
- SPECIAL AREA OF CONSERVATION
- SPECIAL PROTECTION AREA & RAMSAR
- SITE OF SPECIAL SCIENTIFIC INTEREST
- CONSERVATION AREA

Deal Castle
Sandown Castle
The current coastal defences can be divided into two distinct types:

Type A - Between Sandown Castle and Deal Castle, a combination of timber groynes, a seawall, a wave wall and a shingle beach protect the town of Deal.

Type B - From immediately south of Sandwich Bay Estate to Sandown Castle, it consists predominantly of a shingle crest with a shingle beach, which is strengthened towards the southern end by a rock revetment.

The frontage around Deal Pier is particularly exposed and experiences regular wave overtopping. Minor flooding occurs each year causing shingle to block the road drainage at Deal and short term disruption to the road and car-park adjacent to the Royal Hotel.

Flooding to property occurs about every 5 years with water overtopping the promenade and running down the connecting roads to the High Street and commercial area of Deal. In 1996 up to 1m depth of shingle was dumped next to properties at the rear of the promenade. Major inundation of Deal occurred in January 1953 resulting from breach of the shingle embankment.
Alternatives and preferred option

Strategic Context
The Strategy was developed to implement the policies identified for this stretch of the East Kent coast in the Isle of Grain to South Foreland Shoreline Management Plan (current and 1st Review) which was formally adopted in 2007. The options developed were based on the 2006 DEFRA guidance for standard of protection (SoP) for flood protection and predicted sea level rise during the life of the Strategy. A plan output is provided in Figure B which identifies the extent of flooding which would occur at a 1:100 year event in 2057 further to ‘do minimum’. The Strategy concluded there was a strategic need to improve the defences along this frontage. The defences are required to defend the town from the affects of flooding from the sea, either through a breach of the existing defences or through overtopping (or a combination of both). This is particularly urgent immediately north of Sandown Castle where there is a 5% (1 in 20) chance of breach occurring in any year. Around the pier overtopping typically occurs annually. Between Sandown Castle and the Royal Hotel, much of this frontage has a 20% (1 in 5) chance of experiencing significant overtopping each year.

Several approaches to improving beach management to reduce flood risk along the frontage were considered:
- Option 1a: 1 in 75 years SoP (1.33% probability of flooding in any one year)
- Option 1b: 1 in 125 years SoP (0.8% probability of flooding in any one year)
- Option 1c: 1 in 200 years SoP (0.5% probability of flooding in any one year)
- Option 1d: 1 in 300 years SoP (0.33% probability of flooding in any one year)

Figure B - Flood outline for the ‘Do Minimum’ option as identified in the Pegwell Bay to Kingsdown Strategy
Preferred option

Improve Option 1d was selected as it most comprehensively reduced the flood risk to people, property and the environment whilst retaining the existing recreational use of the frontage. The implementation of this improve option offers the best value for money of all the options (highest benefit-cost ratio). This option maximizes the residual life of the existing assets in place along the frontage and was approved for Flood Defence Grant in Aid.

Figure C - Extent of various types of proposed defence

The Scheme will provide a 0.33% (1 in 300) SoP for Deal from between Sandwich Bay Estate to the North (National Grid Reference (NGR) TR373551) and Deal Castle to the South (NGR TR 378 521). This will reduce the probability of flooding by sea to some 0.33% in any one year. The three elements identified above are presented in more detail in the following figures:

- Construction of a pre-cast concrete wave wall from the southern boundary of the Royal Hotel to Deal Castle; (Some 410m)
- Placement of shingle recharge between Sandown Castle and South Street, (near Deal Castle). Pumped onshore from a barge. (Some 1800m).
- Construction of a rock armoured revetment from around Sandown Castle northwards. Delivered by barge. (Some 200m).
Construction of a pre-cast concrete wave wall from the southern boundary of the Royal Hotel to Deal Castle (Some 410m). This will require planning permission from Dover District Council.
Placement of shingle recharge between Sandown Castle and South Street (near Deal Castle) (Some 1800m). The shingle will be pumped onshore from a barge. The beach recharge will be undertaken as permitted development by the Environment Agency under the Town and Country Planning (General Permitted Development) (England) Order 1995, and will require a Marine Licence from the Marine Management Organisation.
Construction of a rock armoured revetment from around Sandown Castle northward (Some 200m). The rock will be delivered by barge. The rock revetment will be undertaken as permitted development by the Environment Agency under the Town and Country Planning (General Permitted Development) (England) Order 1995, and will require a Marine Licence from the Marine Management Organisation.

Environmental Impacts and Proposed Mitigation

The assessment of impacts has followed the following overall process for all subjects:

1. Identification and evaluation of baseline conditions at the site and its environs.
2. Consideration of potential causes and magnitude of impacts.
3. Assessment of the level of significance of potential impacts, taking account of the sensitivity of resources and the magnitude of impacts.
4. Identification of mitigation measures.
5. Assessment of the level of significance of residual impacts, taking account of any mitigation measures.
Wave wall
Increased traffic levels due to construction related vehicles on main roads (A276 and A258) and residential roads toward the frontage in Deal. Closure and temporary diversion of Public Right of Way. **Mitigation:** A full Traffic Management Plan will be prepared prior to construction to detail the methods put in place to minimise any disruption to vehicle users, pedestrians and cyclists. Deliveries will not take place between the hours of 08:00 and 09:00 as well as 15:30 and 17:00 to avoid the busiest periods on the local road network and school pick-ups and drop-offs.

Shingle and rock
The area of the site compound for the shingle and rock will be located within the Sandwich Bay SAC and the Sandwich Bay to Hacklinge Marshes Site of Special Scientific Interest. **Mitigation:** Once works are complete the site compound will be improved and fenced to enable restoration of suitable habitat.

**Figure G - Key Construction Impacts**

Wave wall, shingle and rock
Temporary noise and vibration impact from construction work on residents, tourists and workers. **Mitigation:** The works will be programmed and phased of over a number of stages to restrict impacts within any one area to the minimum time. Local residents and property owners will be kept fully informed about the nature and timing of the works, through such means as newsletters. The contractor will have a representative available on site during working hours to answer queries or address any concerns expressed. Vibration will be monitored in line with best practice during the main construction activities.

Shingle and rock
The potential construction impact from the Presence of barges and pipeline and construction vehicles on recreational fisheries and during events such as the British Open and the Pier and Beach Festival. **Mitigation:** This will be managed through consultation and appropriate notification.

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Approximately 3 kilometres (Some 2 miles) north of Sandown Castle is the embryonic shifting dune habitat which is designated as part of the Sandwich Bay Special Area of Conservation (SAC). There is a risk, if uncontrolled, that the shingle recharge could impact on this habitat via long shore drift. **Mitigation:** A beach management plan (BMP) is being developed to define future beach management practices and interventions. The programme of beach monitoring will compare beach status with the predictions within the BMP. This allows responsive/ focused management and maintenance of the beach both along the scheme frontage and adjacent shorelines.

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Conclusion

Once the scheme is complete there will be a major significant socio economic benefit to those residents and businesses which will be protected to a higher standard of protection.

There will likewise be significant benefits from the improved protection provided to the cultural heritage resources of Sandown Castle and listed buildings within Deal and to the road network which will experience far less flooding from the sea. The scheme also presents an opportunity to improve the quality of a key public space on Deal promenade.

There will be disruption through the construction period on residents and businesses, the setting of the heritage, landscape and views, roads and footpaths as a result of noise, vibration and construction activities.

The continued performance of the scheme relies upon the production of a Beach Management Plan (BMP) which is being developed to define future beach management practices and interventions. The programme of beach monitoring will compare beach status with the predictions within the BMP. This allows responsive/ focused management and maintenance of the beach both along the scheme frontage and adjacent shorelines. The volume of material moved will be related to the volume of change measured as part of the ongoing beach monitoring programmes.

The scheme is considered to be Water Framework Directive compliant due to there being no deterioration to coastal water quality or impact on its potential.

Further to Planning consent from Dover District Council and Marine Licence consent from the Marine Management Organisation the programme is to commence construction in September 2012. The scheme is planned to be substantially complete within 3 months by January 2013.
What are your views on this? How to make comments.....

The Environmental Statement serves the requirements for three permitting regimes. Due to this comments should be returned on the appropriate aspect to the relevant authority, namely:

**Wave wall**
Planning permission issued by Dover District Council with regards the ‘The Town and Country Planning (Environmental Impact Assessment) Regulations 2011’.

Please direct comments on this aspect of the development to Dover District Council at: developmentcontrol@dover.gov.uk

Please include ‘Deal Sea Defences’ as the subject of your correspondence.

**Rock revetment and beach recharge**

Please direct comments on these aspects of the development to the MMO at: info@marinemanagement.org.uk

Please include ‘Deal Sea Defences’ as the subject of your correspondence.

**Rock revetment and beach recharge**
Permitted Development undertaken by the Environment Agency (EA) with regards the ‘The Environmental Impact Assessment (Land Drainage Improvement Works) Regulations 1999’.

Please provide the same comments returned to the MMO to the EA at: DSDS@environment-agency.gov.uk

Please include ‘Deal Sea Defences’ as the subject of your correspondence.
Would you like to find out more about us, or about your environment?

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