Avonmouth Severnside Enterprise Area (ASEA)
Ecology Mitigation and Flood Defence Project

Indicative artist's impressions
and
cross sections of flood defence works

South Gloucestershire Council

Bristol City Council

Environment Agency

Purpose of this document

This document provides additional information for the public engagement period for this project which runs until 8th August 2017. It should be read alongside the information boards.

All images and diagrams are indicative and not to scale.

Artist's impressions

A series of artist's impressions have been prepared to illustrate key parts of the proposals.

The map indicates the location of each artist's impression.

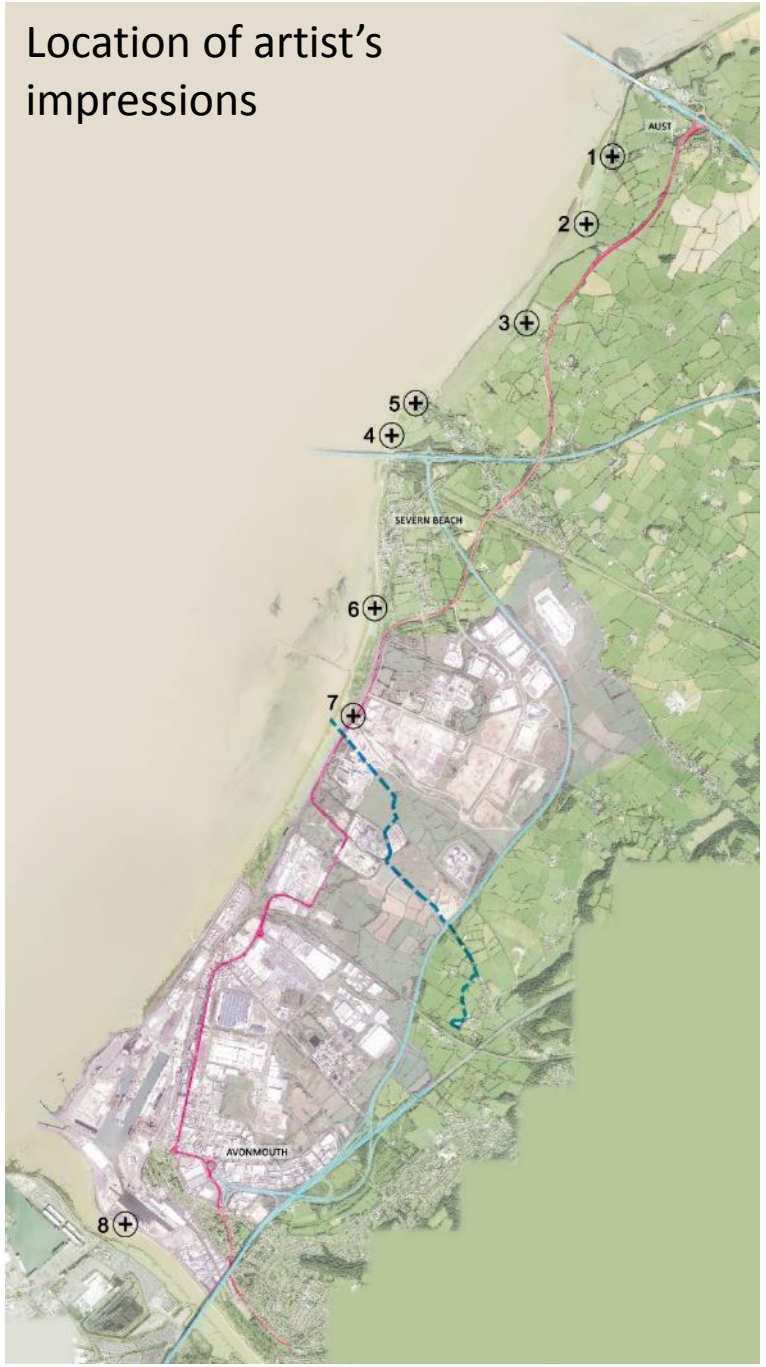


Photo 1 - Old Passage

South of Old Passage the line of the flood defence needs to cross the road from the existing bank. To do this we will need to raise the level of the road so that it ramps up to the required height (see the very centre of the 'proposed' image). This will then tie in with the existing flood bank on the landward side of the road (running south behind the existing hedge) which will be raised.

At Old Passage we are talking with landowners about how best to protect their properties from flooding. A concrete wall between the houses and the coast is likely to be the best solution.

Photo 2 - Cake Pill

Subject to landowner agreement we have an opportunity to create a new area of inter-tidal habitat by moving the existing flood bank further inland to the back of the field boundary.

The ‘proposed’ image shows the new bank running across the picture, just under the hedgerow. To create the bank we will need to remove the existing trees.

The area in front of the new flood bank would revert to saltmarsh. It would support inter-tidal plant species and attract birds.

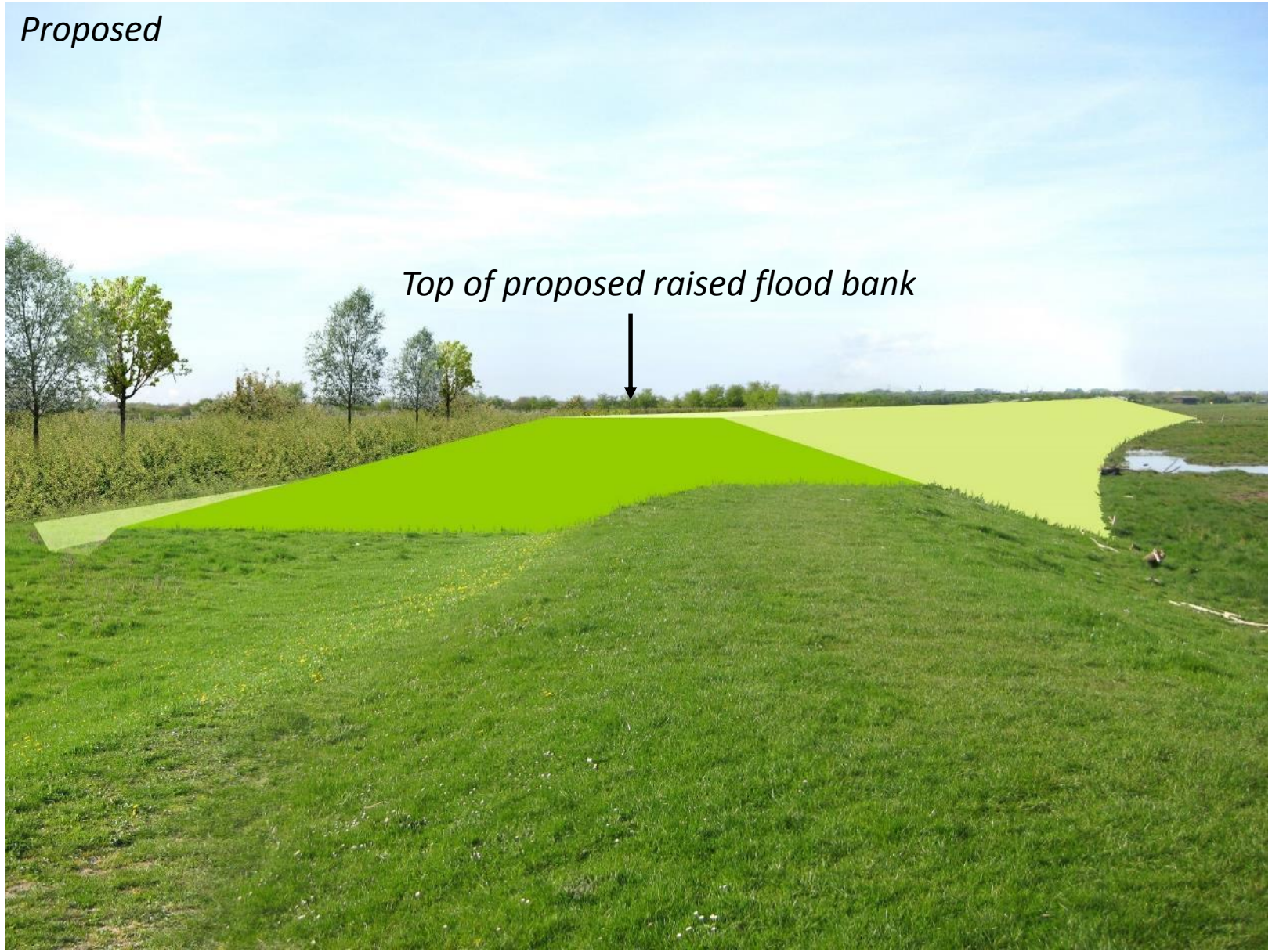


Photo 3 - Northwick Warth

Between Old Passage and New Passage we will need to raise the existing flood banks typically by around 1.4m.

We will do this by building up the existing bank on the landward side, so as not to encroach into the important estuary habitats. We will need to remove the existing vegetation at the back of the bank.

The ‘proposed’ image provides an indication of how high the new raised bank will be. The height is indicated by the green shading.

Photo 4 - North of Chestle Pill

This shows another section of the raised flood bank. Here we will need to increase the height of the bank by around 1.5m.

Photo 5 - New Passage

At New Passage we are talking to residents about how best to protect properties from flooding. A sheet pile flood wall with concrete cladding is likely to be the best solution.

The Severn Way footpath will run along the landward side of the flood wall. We will aim to set the level of the footpath so that walkers can still see over the wall and enjoy views out to the estuary.

Photo 6 - Severn Beach

At Severn Beach parts of the existing flood defence wall are already high enough so north of Station Road we do not need to increase the height (but may do some repairs and reinforcements).

South of Station Road we need to increase the height of the existing flood bank. We will do this by adding a low concrete wall, about 0.5m high. We will provide a new footpath across the top of the bank.

Photo 7 - Severn Beach rail line/Severn Road

We will work with Network Rail to combine the flood defence with the rail embankment.

If this is not possible we will build a 1m high wall in steel sheet piles with concrete cladding between the rail line and Severn Road, as shown here.

We will improve the surface of the Severn Way which is located behind the new wall.

Photo 8 - River Avon

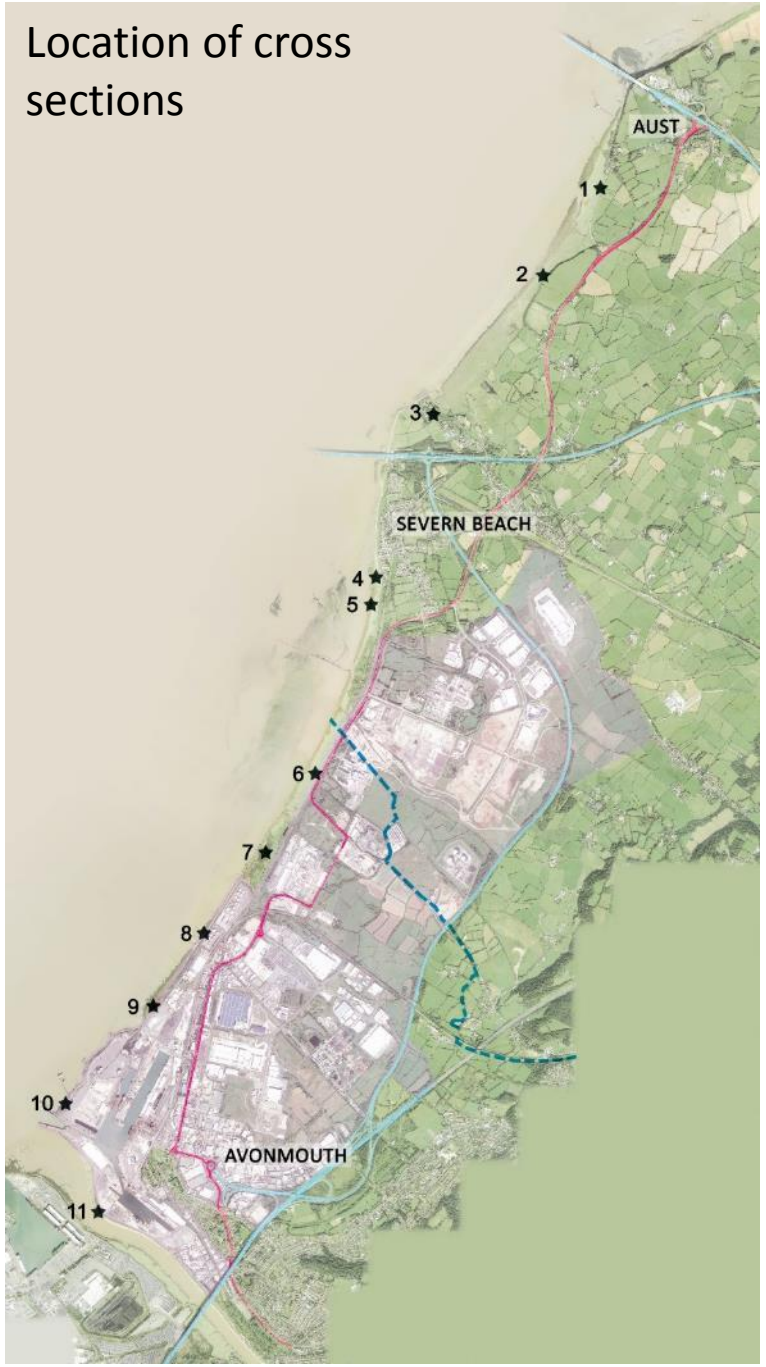
Along the north bank of the River Avon we will need to build a concrete flood wall to protect the Avonmouth area from flooding. We will position this within the existing flood bank which we will have to remove and then rebuild at the base of the new wall. The wall will be around 2m high.

Cross sections

The following cross sections are indicative and are included as examples of the types of works that will be required to improve the flood defences.

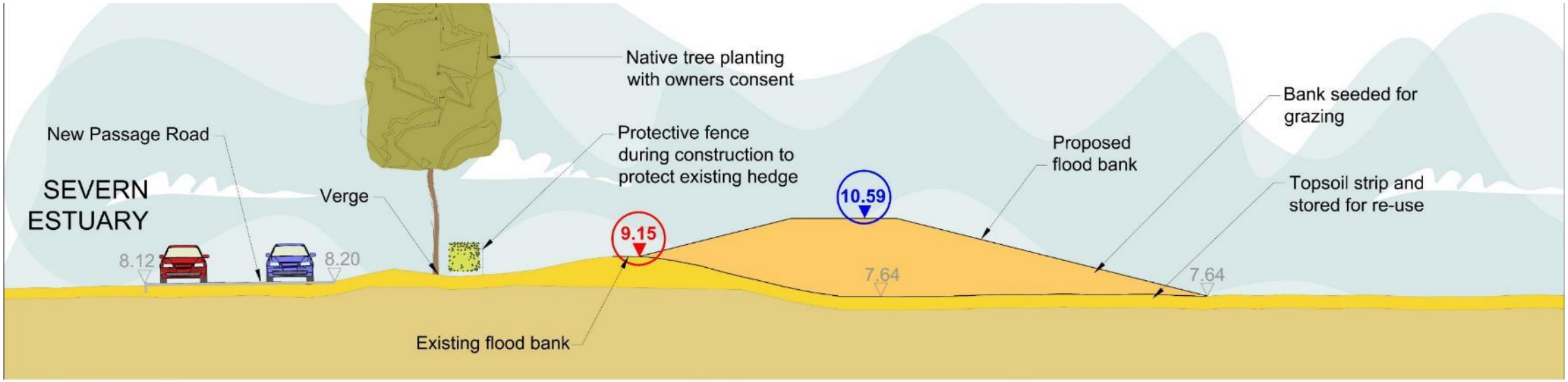
All heights shown are metres above sea level.

1m = 3.2 feet.



Cross section 1 - Old Passage/New Passage Road (ref 1:2)

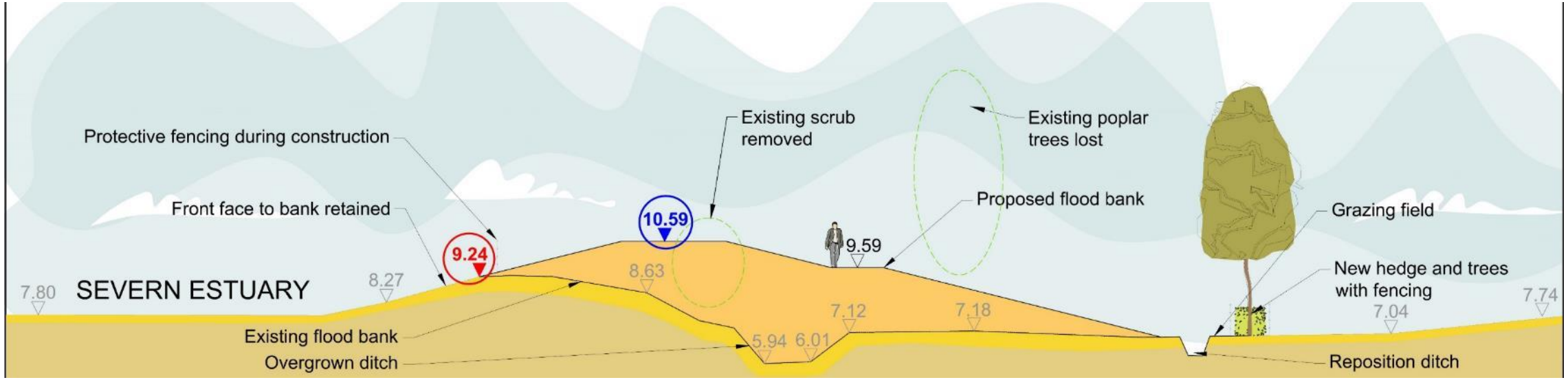
Along the landward side of New Passage Road behind the existing hedgerow there is already a flood bank. We need to increase the height of this bank by around 1.5m. We will build up the bank on the landward side.



Red numbers indicate the highest point within the existing flood defence at this location.
Blue numbers indicate the height the new defences need to be at this location.
Grey numbers indicate other existing heights.

Cross section 2- Northwick Warth (ref 1:3)

Between Old Passage and New Passage we will need to raise the existing flood banks typically by around 1.4m. We will do this by building up the existing bank on the landward side, so as not to encroach into the important estuary habitats. We will need to remove the existing vegetation at the back of the bank.

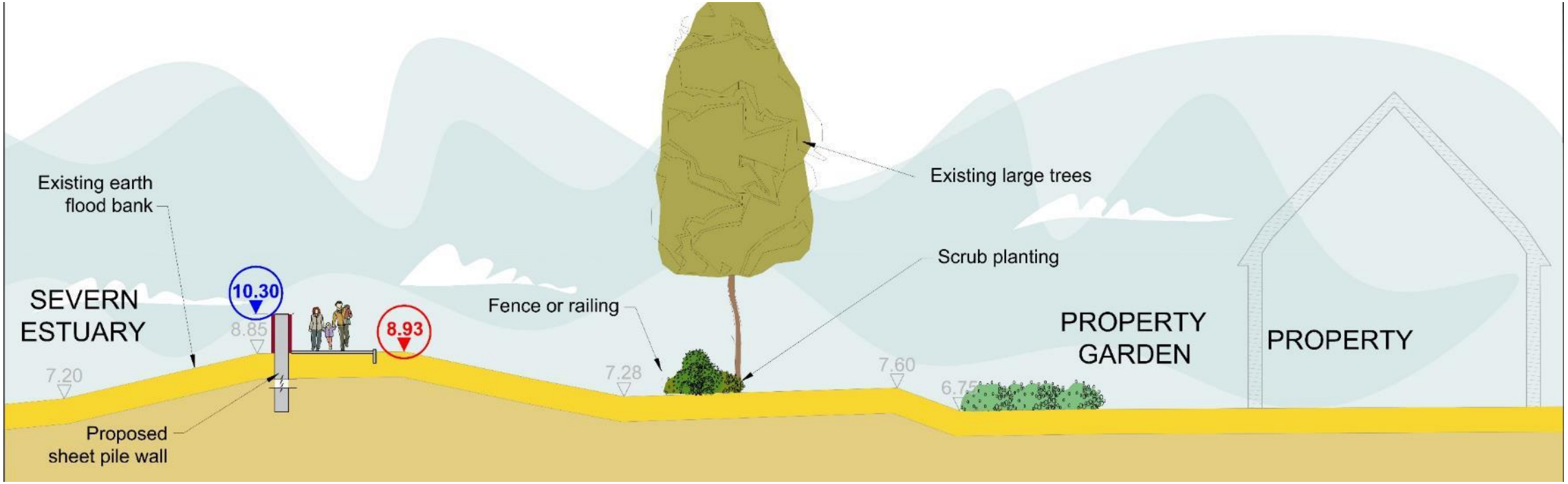


Red numbers indicate the highest point within the existing flood defence at this location.
Blue numbers indicate the height the new defences need to be at this location.
Grey numbers indicate other existing heights.

Cross section 3 – New Passage (ref 1:6)

At New Passage we are talking to residents about how best to protect properties from flooding. A sheet pile flood wall with concrete cladding is likely to be the best solution. The wall will need to be around 1.4m high.

The Severn Way footpath will run along the landward side of the flood wall. We aim to set the level of the footpath so that walkers can still see over the wall and enjoy views out to the estuary.

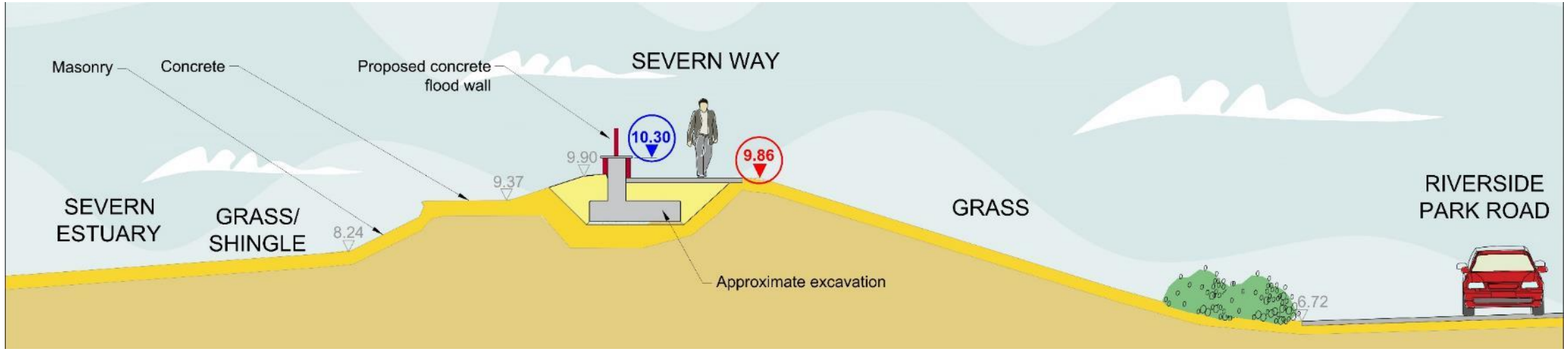


Red numbers indicate the highest point within the existing flood defence at this location.
Blue numbers indicate the height the new defences need to be at this location.
Grey numbers indicate other existing heights.

Cross section 4 – Severn Beach (south) (ref 1:12)

At Severn Beach, parts of the existing flood defence wall are already high enough.
North of Station Road we do not need to increase the height of the defences but may do some repairs and reinforcements.

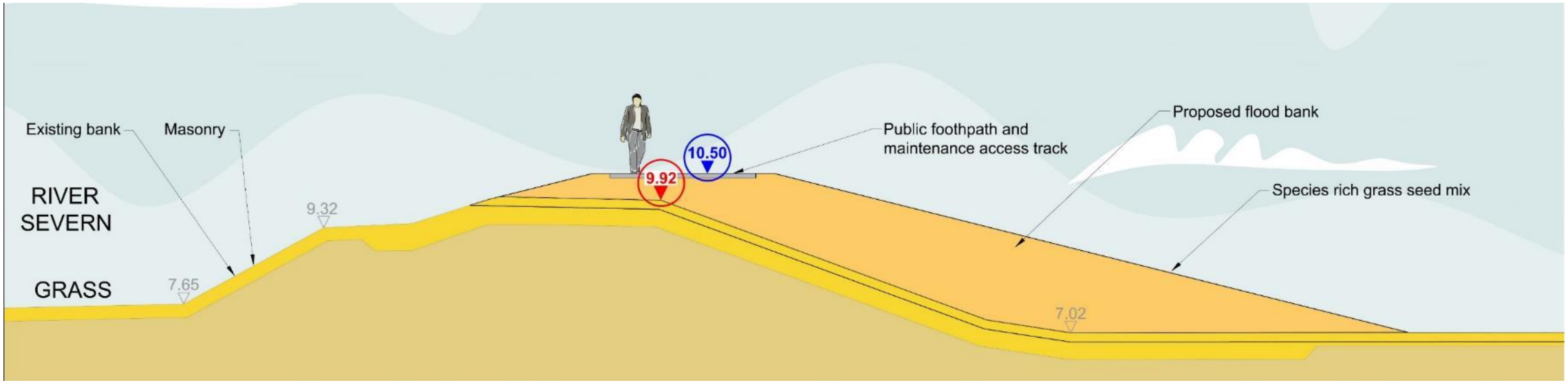
South of Station Road we need to increase the height of the existing flood bank. We will do this by adding a low concrete wall, about 0.5m high, as shown below. We will provide a new footpath across the top of the bank.



Red numbers indicate the highest point within the existing flood defence at this location.
Blue numbers indicate the height the new defences need to be at this location.
Grey numbers indicate other existing heights.

Cross section 5 – South of Severn Beach (ref 1:13)

South of Severn Beach we will need to raise the height of the existing flood bank by around 0.6m. We will do this by building it up on the landward side. The footpath will run across the top of the bank.



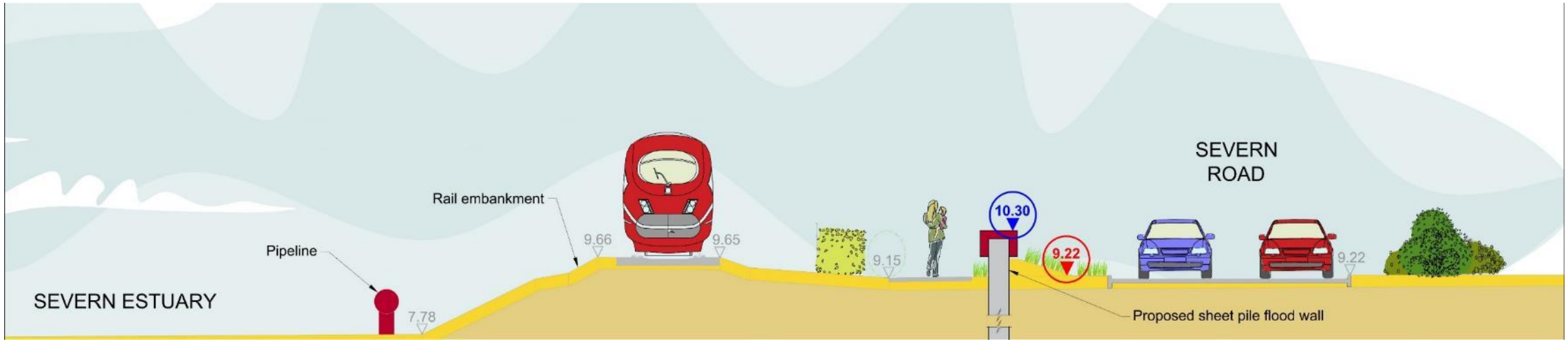
Red numbers indicate the highest point within the existing flood defence at this location.
Blue numbers indicate the height the new defences need to be at this location.
Grey numbers indicate other existing heights.

Cross section 6 – Severn Beach Rail line (ref 3:2)

We will work with Network Rail to combine the flood defence with the rail embankment.

If this is not possible we will build a 1m high wall in steel sheet piles with concrete cladding between the rail line and Severn Road, as shown here.

We will improve the surface of the Severn Way which is located behind the new wall.



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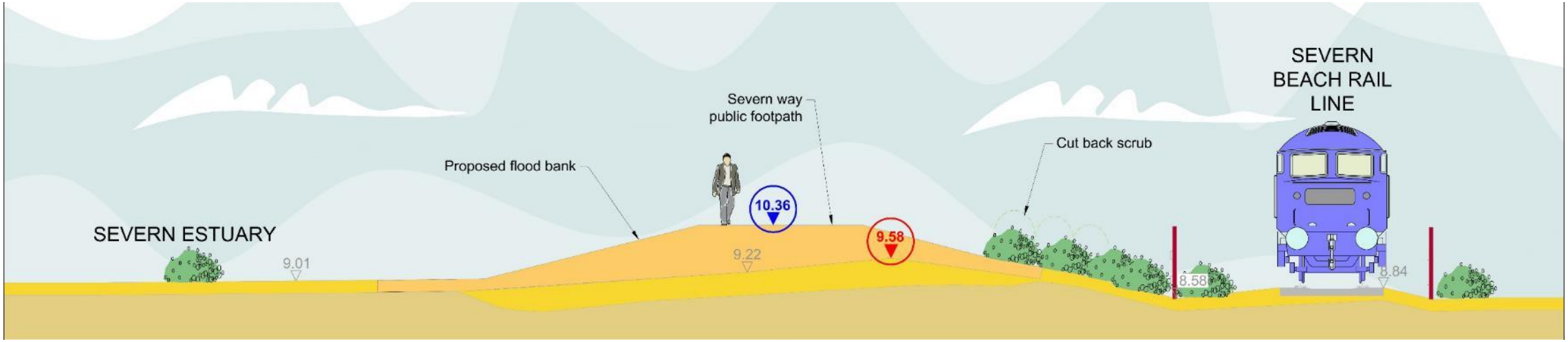
Cross section 7 – Chittening Industrial Estate (ref 3:4)

Adjacent to the Industrial Estate, south of the bend on Severn Road, we will need to raise the existing bank by around 0.8m.



Red numbers indicate the highest point within the existing flood defence at this location.
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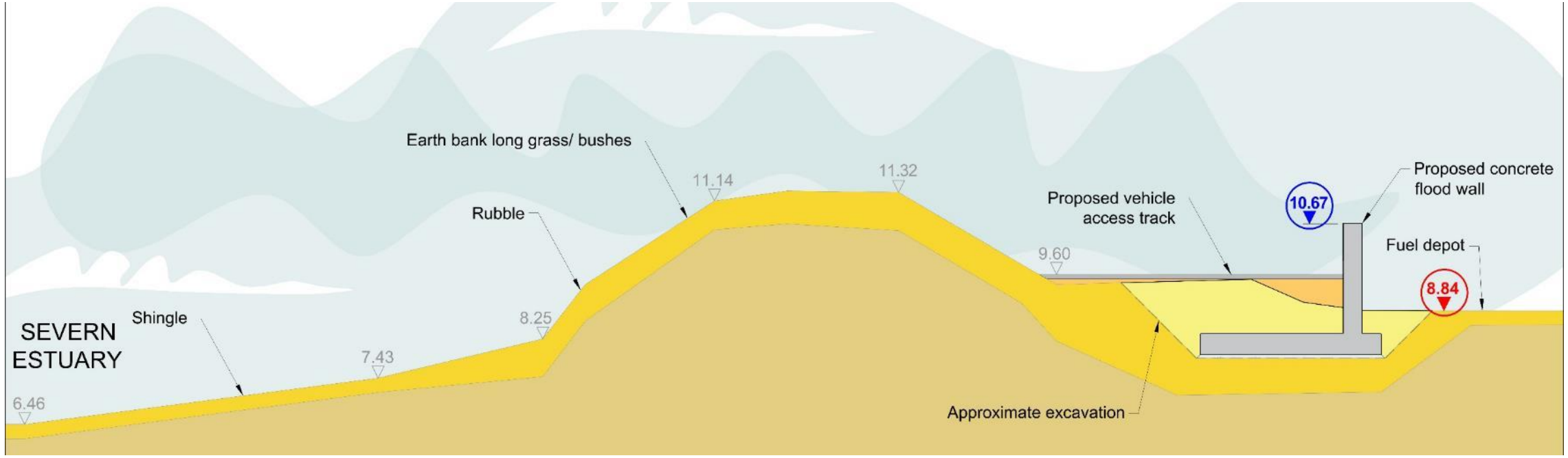
Grey numbers indicate other existing heights.

Cross section 8 – Gas works (ref 2:1)

We will reinforce the existing defences by building a concrete flood wall behind the existing flood bank. This will be around 1.8m high.



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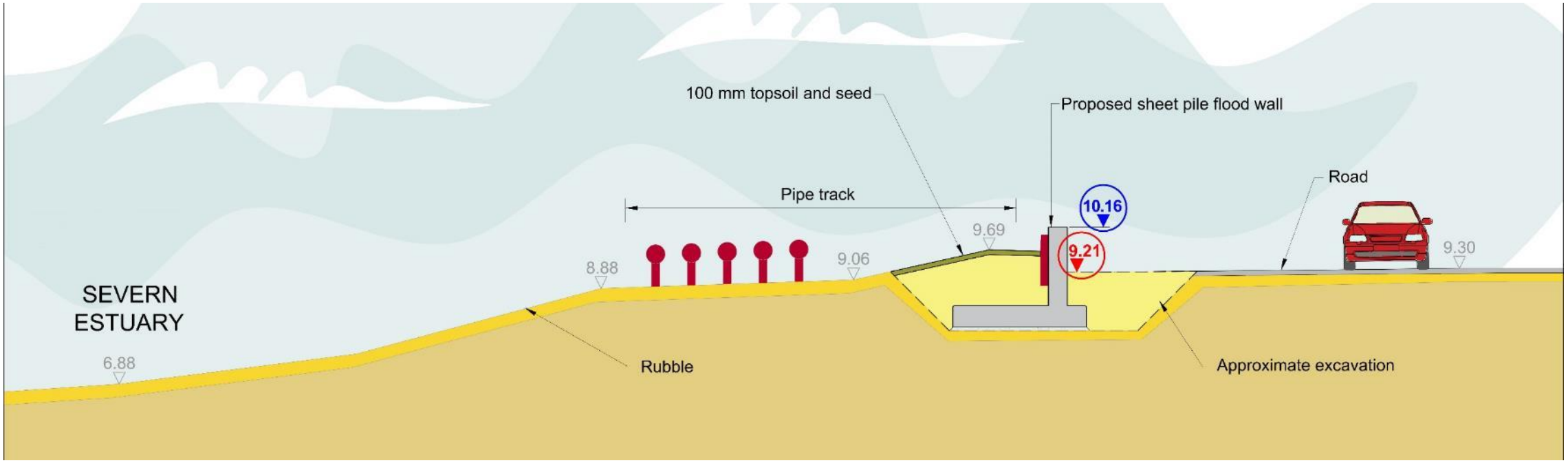
Cross section 9 – North of the Docks (ref 2:2/3)

We will replace the existing wall with a new concrete flood wall around 1m high.



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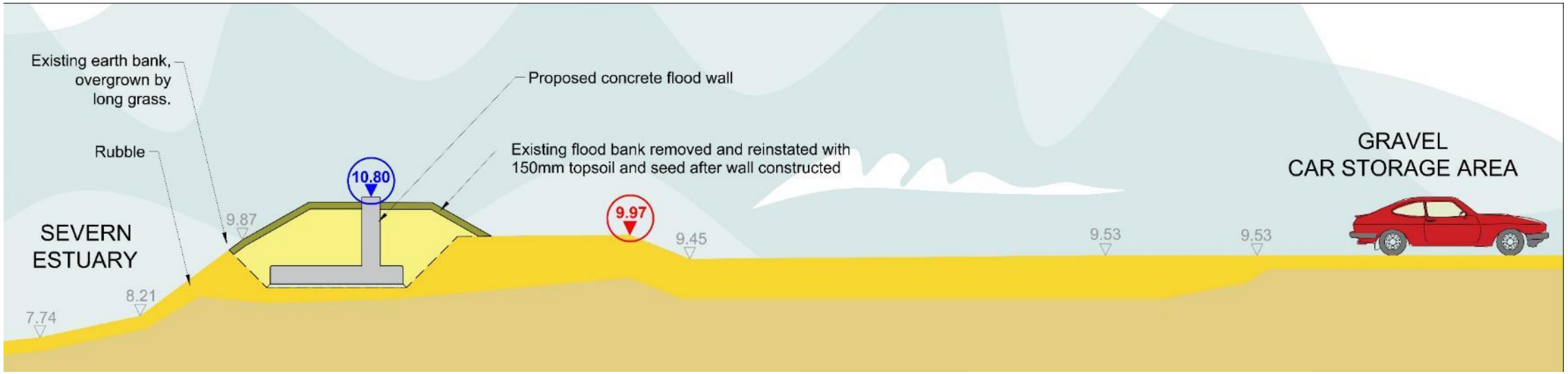
Grey numbers indicate other existing heights.

Cross section 10 – Avonmouth Docks (ref 2:3)

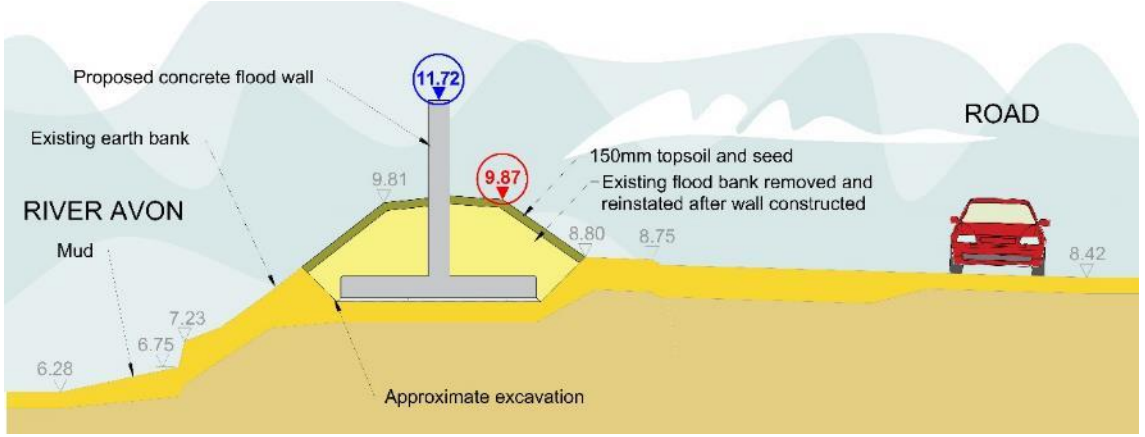
Along the dock edge we will build a concrete flood wall within the existing embankment to strengthen it.



Red numbers indicate the highest point within the existing flood defence at this location.
Blue numbers indicate the height the new defences need to be at this location.
Grey numbers indicate other existing heights.

Cross section 11 – River Avon (ref 2:4/6)

Along the north bank of the River Avon we will need to build a concrete flood wall to protect the Avonmouth area from flooding. We will position this within the existing flood bank. We will have to remove the flood bank and then rebuild it at the base of the new wall. The wall will be around 2m high.



Red numbers indicate the highest point within the existing flood defence at this location.
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