

# Wendover Cut & Cover Tunnel Extension

# Background

- **Wendover has petitioned for a fully bored tunnel to protect the people of Wendover and safeguard the AONB.**
- This alternative proposal for a Cut & Cover Tunnel Extension is our fall-back position. This is not an acceptable option to all because it does not address many of the issues raised, which would be solved by a bored tunnel.
- Our preference with regards tunnel option are;

**1<sup>st</sup> Chiltern Long Tunnel**

**2<sup>nd</sup> CRAG T3i Tunnel**

**3<sup>rd</sup> Extensions to the proposed  
Cut & Cover Tunnel**

- The extension to the green tunnel has three elements:
  - North Portal
  - South Portal
  - London road/Misbourne Valley

# Northern Extension



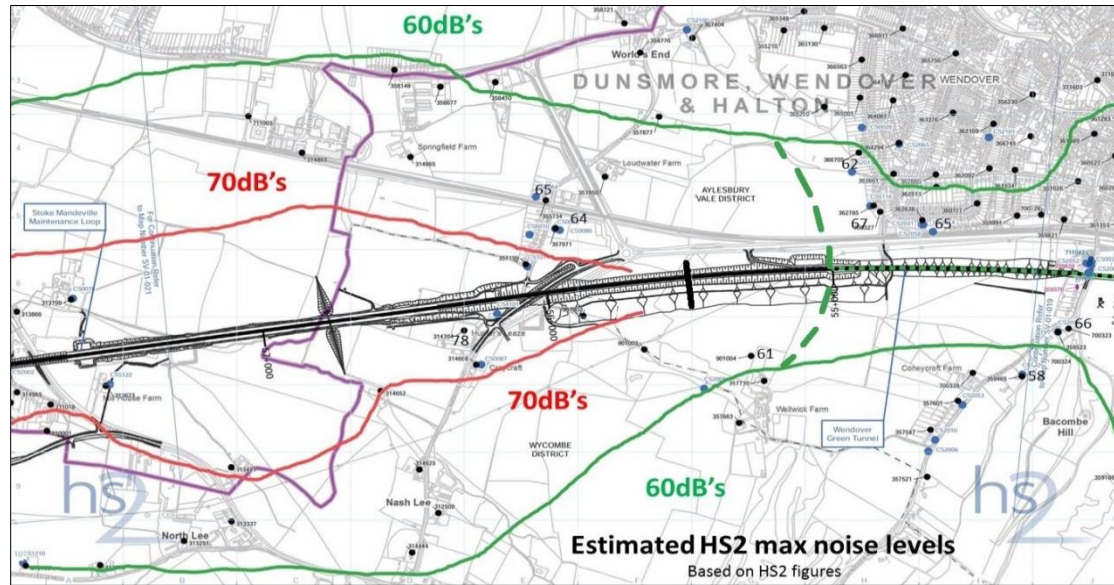
## Proposal

- Extend current Cut & Cover tunnel by 500m to have the portal at chainage 55.400 and then a cowl of 100m to take it to 55.500
- Ensure the extension like the basic tunnel is remediated to address the hydrogeological risks

## Construction

- As the line rises on its current vertical alignment it becomes clear that the 'hump' of the tunnel will be visible.
- Use spoil to smooth this hump particularly to the west to blend it into the landscape and return the land use back to agricultural

# Northern Extension



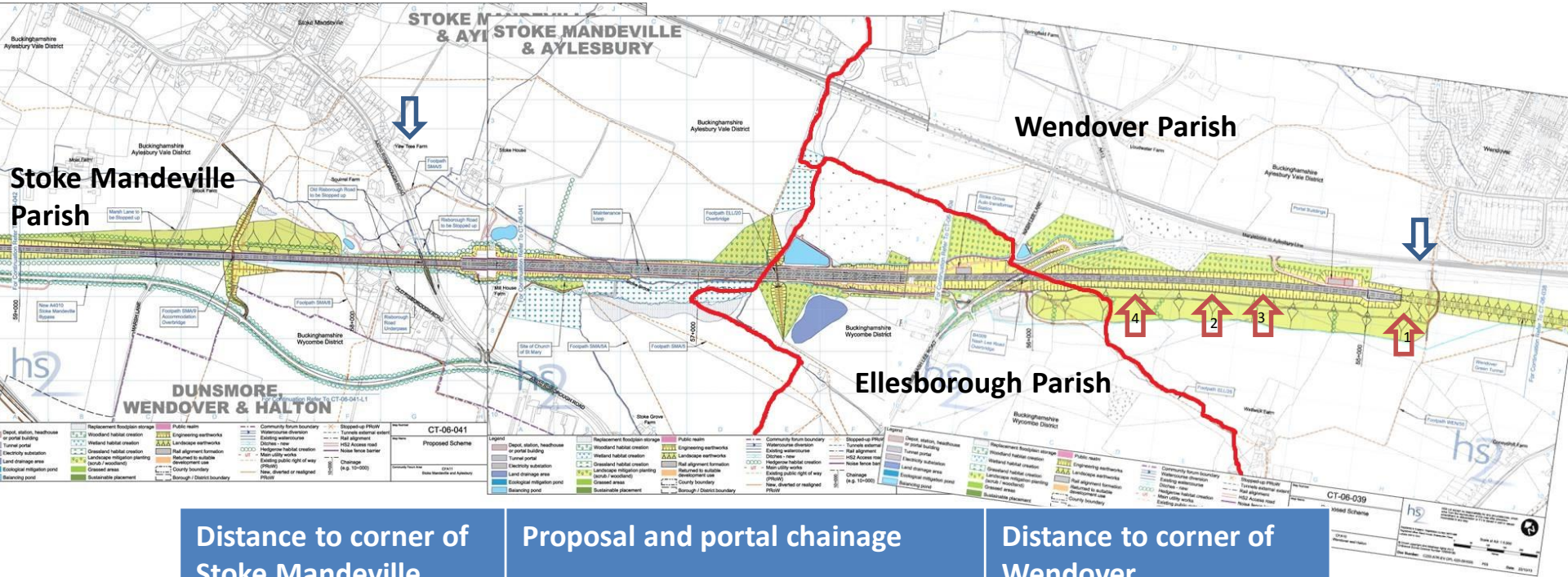
## Costs

- This part of the proposal has been costed using HS2 Ltd data
- In response to a parliamentary question Frank Dobson was told the Wendover Cut & Cover tunnel would cost £57M to construct
- This implies a cost of £48,000 per meter
- Therefore 500m costs £22M

## Benefits

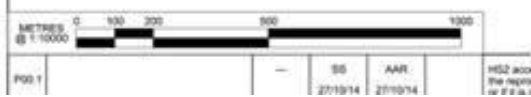
- Reduce peak noise disturbance
- Reduce property blight
- Reduce visual intrusion from both the town and Combe Hill
- Reduce stress

# Stoke Mandeville and the Wendover Tunnels



Distance to corner of Stoke Mandeville	Proposal and portal chainage	Distance to corner of Wendover
2900m	1. Current proposal – 54.900	300m
2400m	2. Extend green Tunnel – 55.400	600m
2500m	3. Crag T3i bored Tunnel – 55,250	450m
2000m	4. Chiltern Long Tunnel – 55.800 plus west	1000m

A1214 (5)

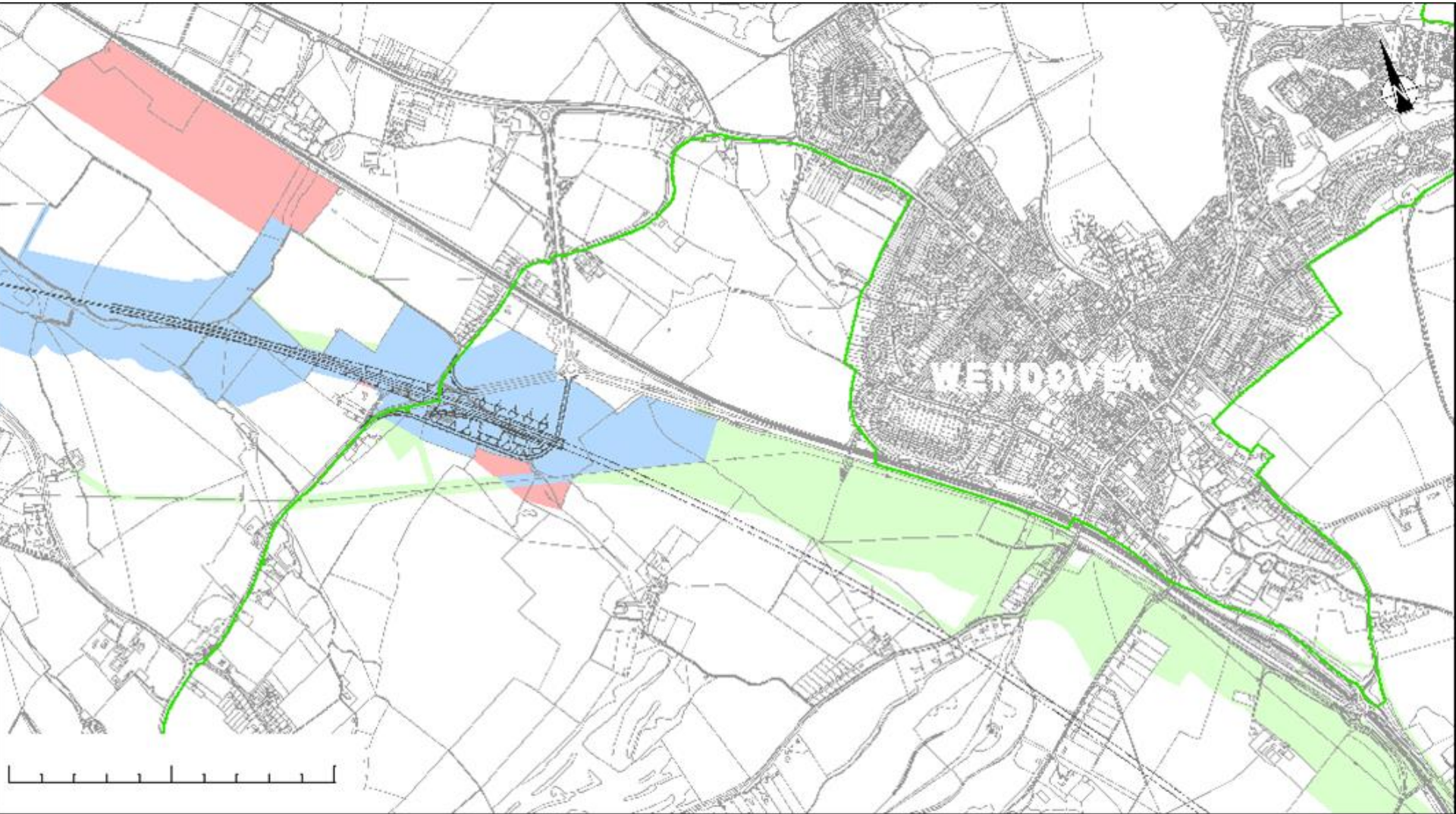


## Bored Tunnel Construction Camp

- The latest T3i drawing from HS2 Ltd shows a sprawling construction camp running from Nash Lee Road to Stoke Mandeville
- Largest seen to date – to frighten Stoke Mandeville?
- In comparison Cross rail construction camp at Westbourne Park for tunnelling operations and a railhead on the same scale looks miniscule
- 20 times the size of cross rail
- Need to understand why HS2 need so much land



# CLT Construction Camp



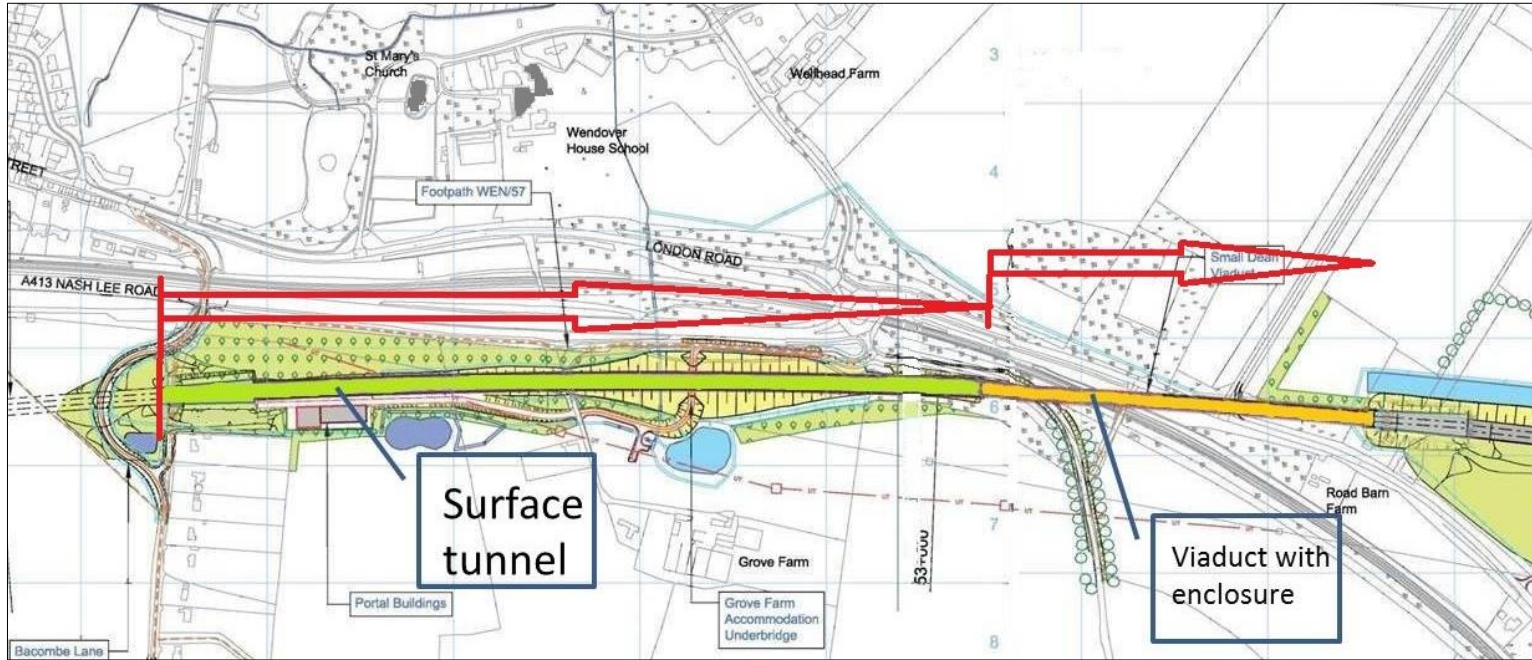
Blue = existing land take

Green = released land take

A1214 (7) new land take for railhead

By comparison the CLT additional land take is quite modest

# Southern Extension – Proposal



## Part 1

- Put an enclosure over the line as it runs from Bacombe lane to the viaduct.
  - Length of 700m
  - This will effectively make it a surface tunnel
  - Building techniques today will make this construction relatively quick and less invasive than a cut & cover tunnel.
  - Adding a green roof to it will help it blend in
- A1214 (8) facilitate animals crossing the line.

## Part 2

- The viaduct requires enhanced mitigation for sound.
- Therefore the proposal is to put the HS2 concept proposal on the viaduct.
- Length 500m
- This will help St Mary's Church and churchyard as well as Wendover Campus School and playing fields



# Southern Extension - Construction



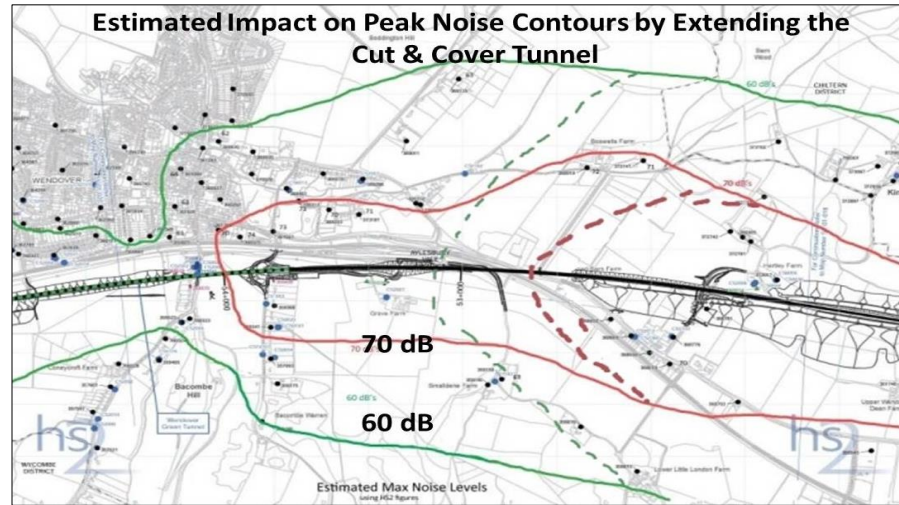
hs2

Concept Viaduct Noise Barrier



- The construction of the surface tunnel should be relatively easy and cheap.
- Once the foundations are established the preformed concrete arches can be erected very quickly.
- The enclosure on the viaduct is a substantial structure however as the design is not complete and as they already have a draft concept ready then turning this into reality should not cause too many problems.
- HS2 Ltd have suggested the enclosure on the viaduct will be an eyesore, we concur as would the viaduct itself be an eyesore.

# Southern Extension



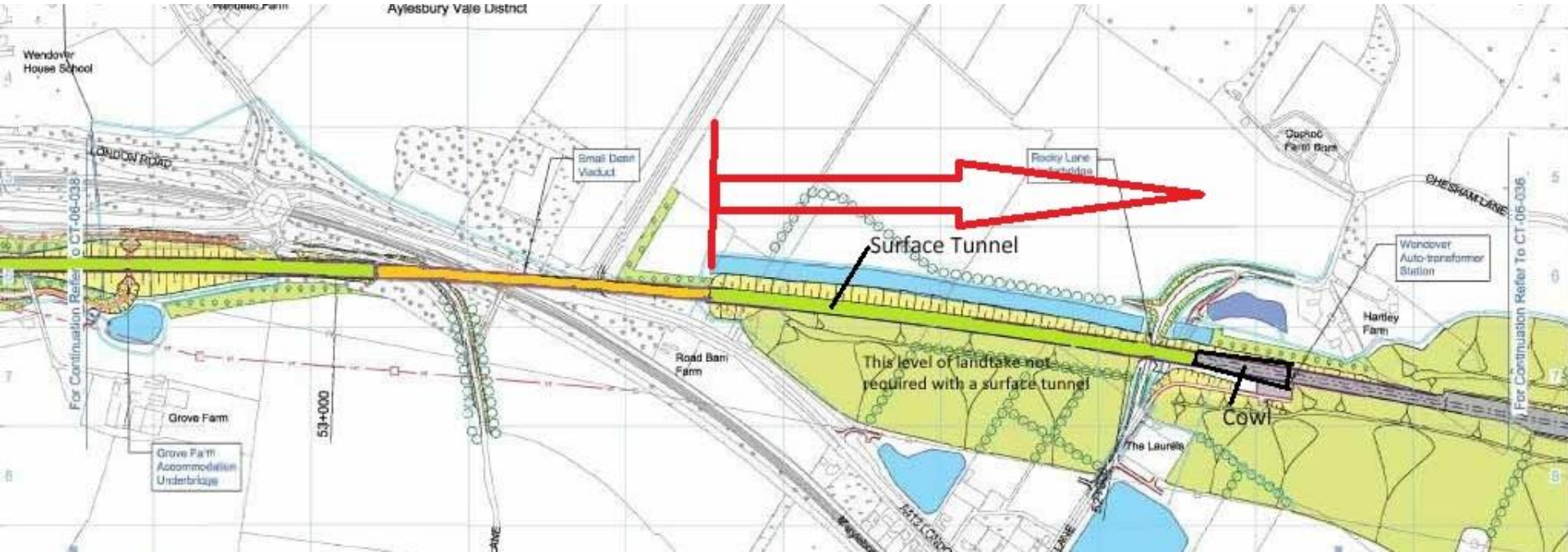
## Costs

- HS2 Ltd estimated the southern ext. would cost £40M (FOI 13-903)
- If we assume a surface tunnel costs 50% of a Cut & Cover tunnel because you do not have major excavation work then the cost would be £16M
- The viaduct enclosure could cost up to £20M
- Clearly a professional evaluation of this proposal is required

## Benefits

- Noise reduction
- Property blight
- Health issues
- St Mary's Church
- Wendover Campus school
- Tourism saved – longer term

# London Road/Misbourne Valley



## Benefits

- Better noise mitigation
- Improvement on property blight
- Stop light intrusion from the pantograph
- Reduced land take

## Costs

- Costs will be about £15M

# Table of Proposal

	Original HS2 Proposal	This proposal
Cowl	100m	100m
Northern Extension	-	500m
Original Cut & Cover Tunnel	1100m	1100m
Southern Ext. Surface Tunnel	-	700m
Southern – viaduct enclosure	-	500m
London Road Surface Tunnel	-	600m
Cowl	100m	100m
Total	1300m	3600m

# Summary

- This proposal will cost £77M
- Benefits
  - It will save a substantial amount of property blight
  - It will remove hundreds of houses from the peak noise issue
  - It will reduce the impact on tourism and the local economy
  - It will help protect St Mary's and Wendover Campus School
- What is missing
  - It will not save the AONB
  - It will not save the Agricultural economy
  - It will not avoid the widespread chaos of construction so close to the residents of Wendover
  - it will leave HS2 as a dominant feature and scar on the landscape