

**WELCOME**

**SOUTHERN ROUTE REVIEW  
QUESTION AND ANSWERS**

**1 March 2012**

Q & A presentation 1 March 12

# Who is here from the project team?



Transport  
Roads & Maritime  
Services

Facilitator, Lucy Cole-Edelstein, Straight Talk.  
Fiona Court, General Manager, RMS Infrastructure Communications.  
Ron De Rooy, Project Manager, Foxground and Berry Bypass.  
Adam Berry, Project team, RMS.  
Carla Brookes, Project communications, RMS.  
Angela Malpass, Project communications, AECOM.  
Kerri Hale, Project communications, AECOM.  
Stuart Dalziell, Transport planning and Traffic Modelling, AECOM.

# Meeting agenda



Transport  
Roads & Maritime  
Services

- 6.30 Welcome, housekeeping and introductions (Lucy).
- 6.35 Progress on Southern Review (Adam).
- 6.55 Questions and answers about Southern Review.  
(Adam).
- 8.15 Thanks and close.

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## What we covered last time...



Transport  
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Services

- Review team established.
- Flooding investigations underway.
- Geotechnical investigations underway.
- Developing a route within the blue area.

Tonight we'll update you on these and answer any questions you have about the review.

## Review team will..



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- Develop an indicative route bypassing Berry to the south with sufficient information to produce a robust strategic cost estimate.
- Use its best endeavours to:
  - Optimise the southern route to minimise property impacts and land severance.
  - Engineer a cost effective southern route solution.
  - Apply any benefits found on the southern route to the northern route where applicable, and vice versa.
- Evaluate the southern bypass route by comparing it to the current northern preferred bypass route within the context of the whole Foxground and Berry Bypass (FBB) Princes Highway Upgrade.

## Flooding - last time we spoke about....



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- Determining the appropriate level of the road surface to provide 1 in 100 year flood immunity.
- Climate change projections will be included as will predicted increase in rainfall intensity.
- Increased influence of Shoalhaven River due to proximity is being examined and is complex.

## Flooding – since last time.



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- The appropriate level of the road surface to provide 1 in 100 year flood immunity has been determined.
- How?
- Cardno flood study done for Shoalhaven Council.
- Cardno flood study done for Railcorp.
- AECOM flood studies.

## Flooding – since last time.



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- What is it - it is 7.5 metres AHD (AHD is approximately sea level, noting that sea level is tidal).
- For context - the railway line is approximately 5 metres above AHD.
- What does this mean? This level sets the lowest point at which we can have the actual road level, the pavement, through the southern route.



## Flooding - since last time.



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- Insert graphic of flood levels north and south from AECOM (not yet available)

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## Geotechnical Investigations – last time we spoke about....



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- Knowing the ground conditions helps RMS to work out what earth and concrete structures are suitable to support the road.
- What type of foundations and how deep. What depth of soil might need to be removed. Would soft soil treatments be needed and if so, where? Work on north and south looking at the depth and type of soils and at what depth bedrock is.
- Two types of investigations – drilling to take core samples and cone penetration tests.

# Geotechnical investigations – since last time.



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# Geotechnical investigations – since last time



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## Developing a route within the blue – last time we spoke about....



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- Minimising property impacts.
- Understanding the height of the road: keeping it as low as possible but with flooding constraints in mind.
- Rail crossing considerations – looking at structure types – bridges and arches – as well as Railcorp requirements, in detail.
- Considerations around where embankments will end/transition to structures as well as what structures, where, and what size. Similar considerations with embankments.

## Developing a route within the blue – since last time.....



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- A route has been developed.
- It is within the blue area in the maps provided to the community, but it is different.
- It is a route that is technically feasible.
- This does not necessarily mean that it is the route we would pursue if this costing review resulted in the southern route moving forward into more detailed investigations. **It is a route for comparison costing.**
- IF the costing leads to further investigations, any southern route would require further adjusting/refining based on many local issues in consultation with the community.

# Refined route within blue area



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REVISION IN PROGRESS

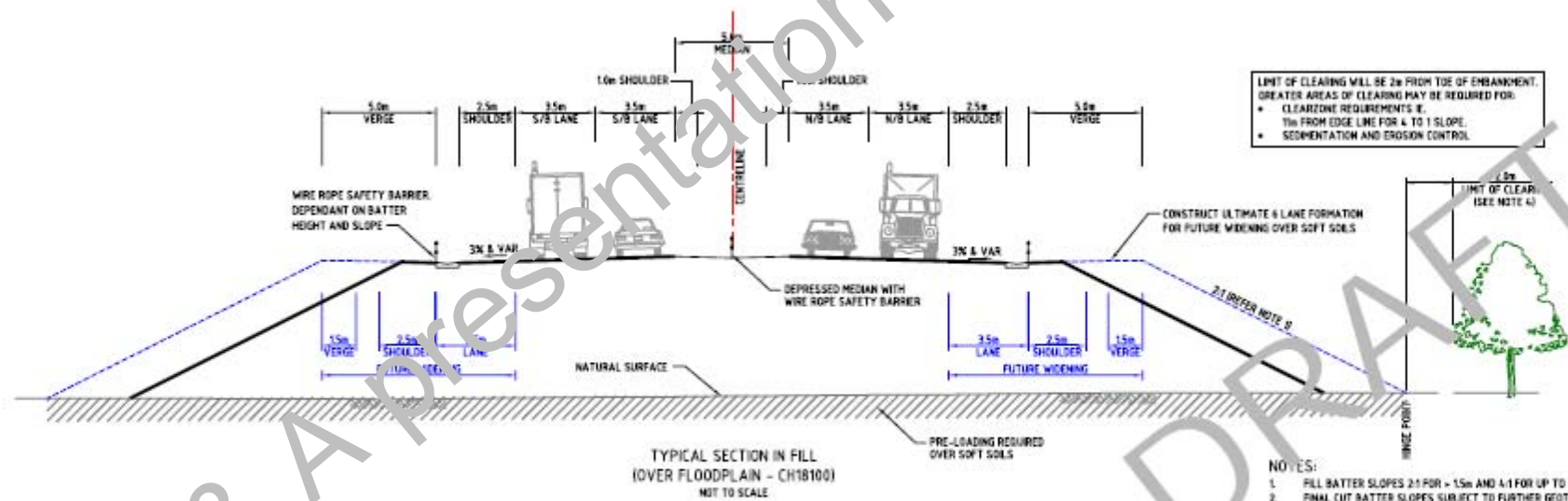
## Developing a design within the blue route – since last time.....



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- The answers to many of your questions still aren't known yet.....
- How high will the embankments be?
- Where will they end? Where will they start? This is closer to being finalised.
- Where will bridges start and end? How high will they be?
- We will provide you with this information in detail as soon as we can, but that is still at least three weeks away.
- However the following graphics show some indicative structures.





LIMIT OF CLEARING WILL BE 2m FROM T.O.E OF EMBANKMENT. GREATER AREAS OF CLEARING MAY BE REQUIRED FOR:

- CLEARZONE REQUIREMENTS E.
- 1m FROM EDGE LINE FOR 4: TO 1 SLOPE.
- SEDIMENTATION AND EROSION CONTROL

NOTES:

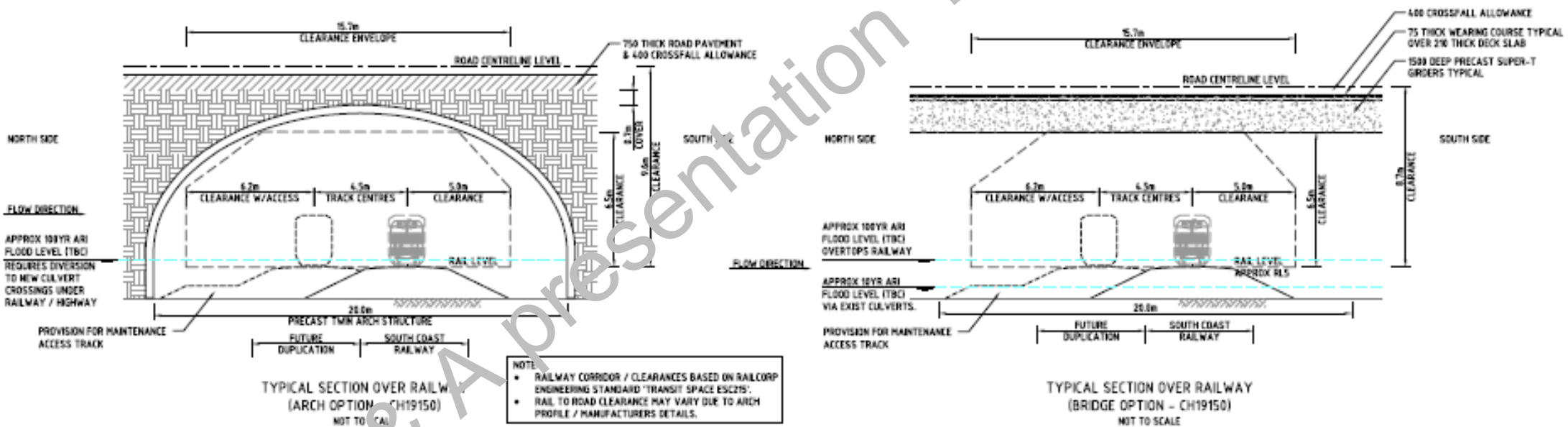
1. FILL BATTER SLOPES 2:1 FOR  $\leq 15m$  AND 4:1 FOR UP TO 15m
2. FINAL CUT BATTER SLOPES SUBJECT TO FURTHER GEOTECHNICAL INVESTIGATIONS
3. BENCHING REQUIRED IF CUT BATTER IS DEEPER THAN 8.0m AND AT INTERFACE BETWEEN RESIDUAL SURFACE AND ROCK STRATA.
4. PROVIDE 3.5m CLEARANCE WHEN DIVERSION DRAINS ARE IN PLACE (OCCASIONALLY PARALLEL. DIVERSION DRAINS ARE NECESSARY TO SEPARATE CLEAN AND DIRTY WATER)

REVISION IN PROGRESS

# Rail Crossing Concept Sections



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## Next Q and A session – technical focus.



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- Next time – March 19<sup>th</sup> – Technical specialists will give presentations and answer questions on:
  - Details of flooding and drainage investigations.
  - Details of geotechnical investigations – subject to any results being available.
  - Details of bridges and structures – depending on how advanced the design is.
  - Details of construction considerations and methodologies.

**Thank you**



**Transport**  
Roads & Maritime  
Services

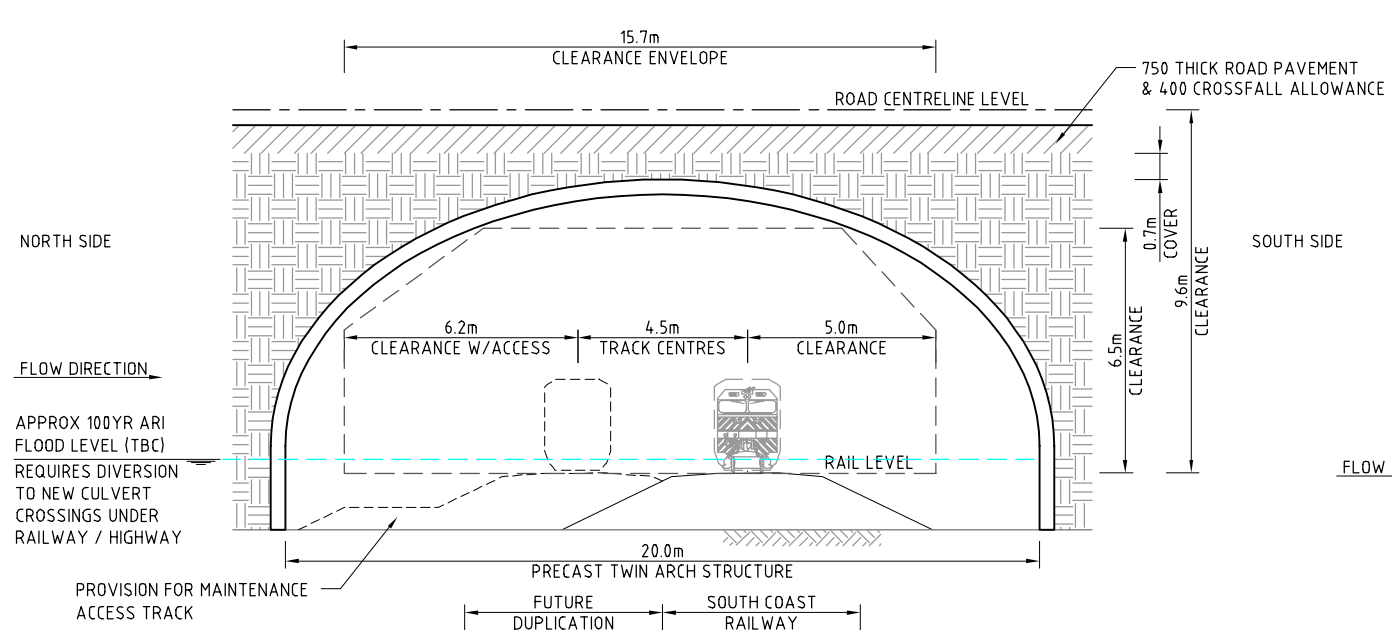
Berry project office Broughton Court,  
shop 3/113 Queen Street, Berry.

Email us on [foxgroundandberrybypass@rta.nsw.gov.au](mailto:foxgroundandberrybypass@rta.nsw.gov.au)

Visit the project website [www.rta.nsw.gov.au/fbb](http://www.rta.nsw.gov.au/fbb)

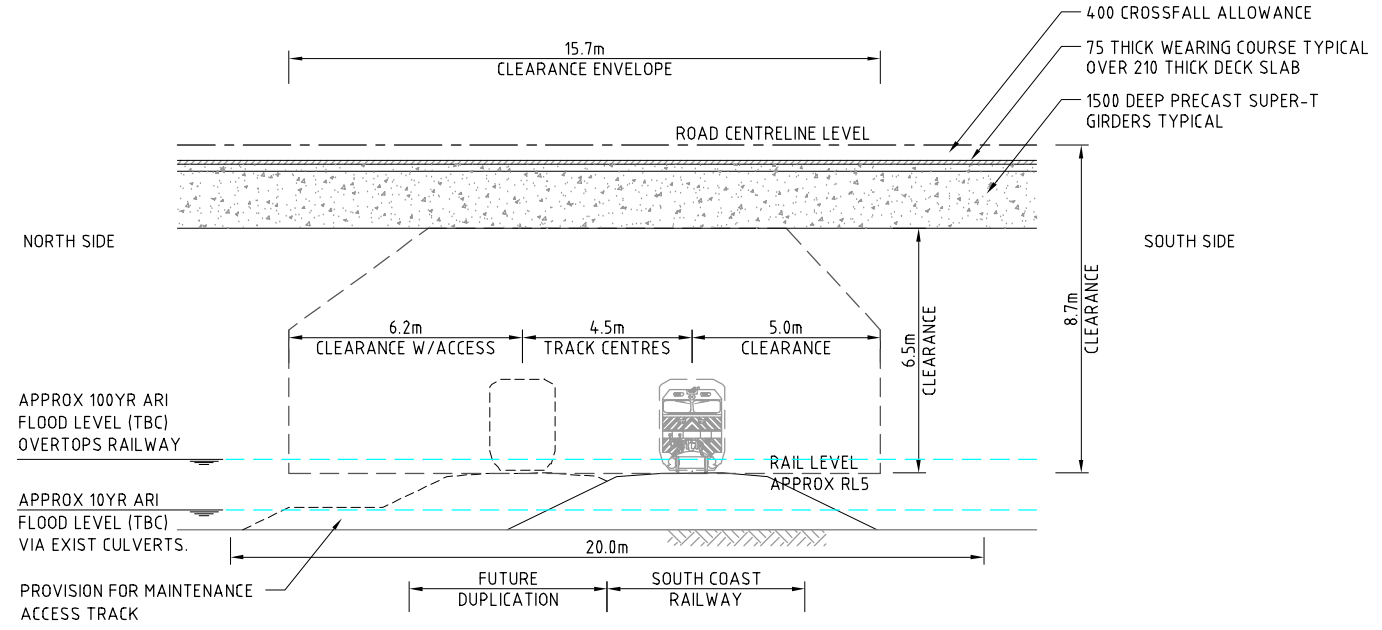
Call project information line 1800 605 976

LCE

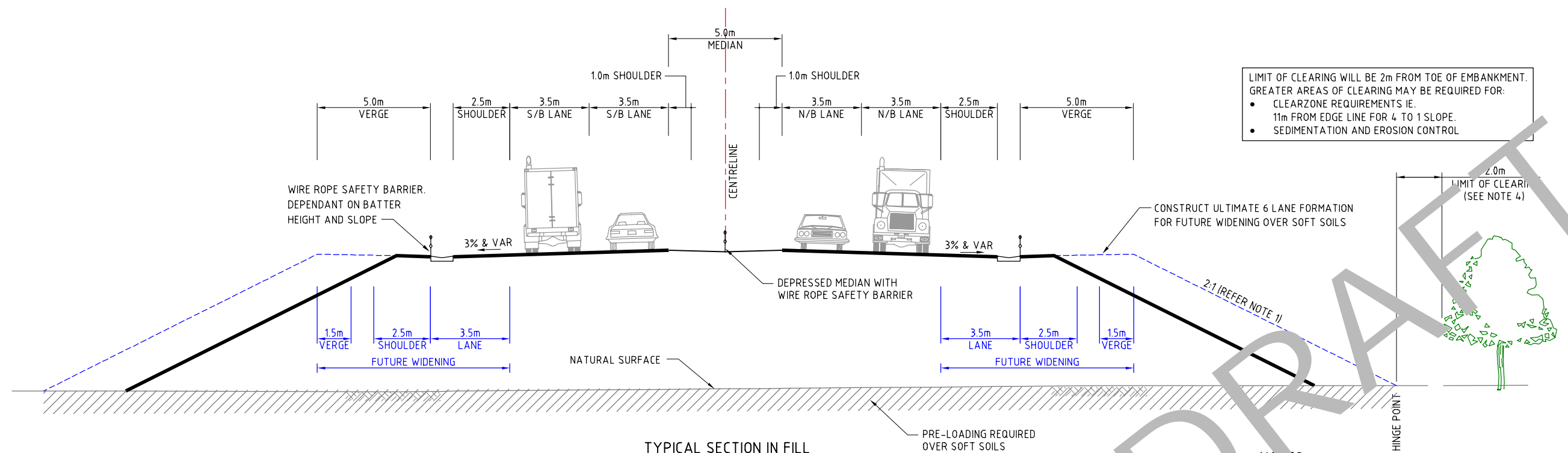


TYPICAL SECTION OVER RAILWAY  
(ARCH OPTION - CH19150)  
NOT TO SCALE

NOTE:  
 • RAILWAY CORRIDOR / CLEARANCES BASED ON RAILCORP ENGINEERING STANDARD 'TRANSIT SPACE ESC215'.  
 • RAIL TO ROAD CLEARANCE MAY VARY DUE TO ARCH PROFILE / MANUFACTURERS DETAILS.



TYPICAL SECTION OVER RAILWAY  
(BRIDGE OPTION - CH19150)  
NOT TO SCALE



TYPICAL SECTION IN FILL  
(OVER FLOODPLAIN - CH18100)  
NOT TO SCALE

LIMIT OF CLEARING WILL BE 2m FROM TOE OF EMBANKMENT. GREATER AREAS OF CLEARING MAY BE REQUIRED FOR:  
 • CLEARZONE REQUIREMENTS I.E.  
 • 11m FROM EDGE LINE FOR 4 TO 1 SLOPE.  
 • SEDIMENTATION AND EROSION CONTROL

- NOTES:
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