











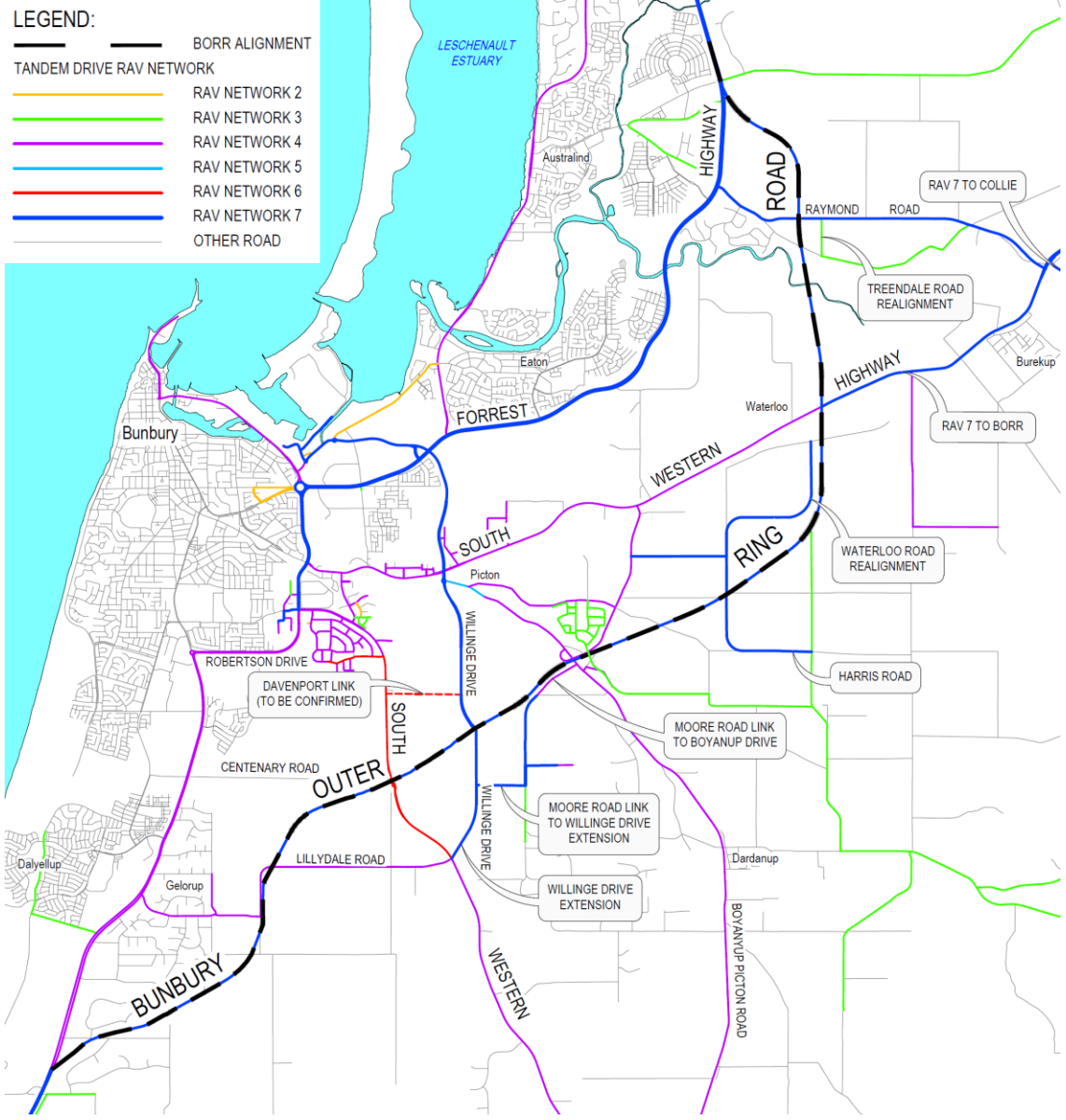
# Freight Vehicle Provisions

Chris Mitchell

# RAV Network – Tandem & Tri Drive

**LEGEND:**

-  BORR ALIGNMENT
- TANDEM DRIVE RAV NETWORK**
-  RAV NETWORK 2
-  RAV NETWORK 3
-  RAV NETWORK 4
-  RAV NETWORK 5
-  RAV NETWORK 6
-  RAV NETWORK 7
-  OTHER ROAD





**Environment Referral update**  
**Neil McCarthy & Padraic Murphy**

# Environmental Update

- All field investigations complete,
- Technical Reports being processed through review process,
- Environmental Referral to the EPA and DotEE late February/Early March.

# Noise Modelling

- Noise Monitoring has been completed;
- Noise Model has been calibrated to the existing conditions with good similarity;
- Model data is based on forecast traffic volumes for 2041;
- Chip seal surface on BORR, Dense Graded Asphalt on Raymond Rd;
- Day time noise is the controlling factor;
- Sensitive Receptors have been identified that will experience noise above the 55 dB Target and the 60 dB Limit;
- BORR team will consult with these affected parties directly before releasing data further.



A blurred truck is driving from left to right under a concrete bridge. The truck is white with a red stripe and has a blue and white patterned trailer. The bridge has several concrete pillars. A dark blue rectangular overlay is on the right side of the image, containing white text.

# Drainage Strategy

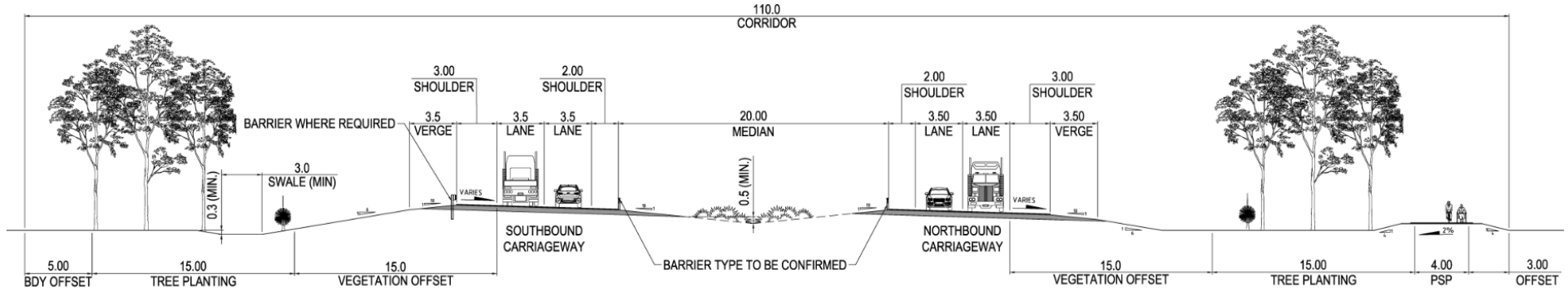
Chris Mitchell

# Strategy General

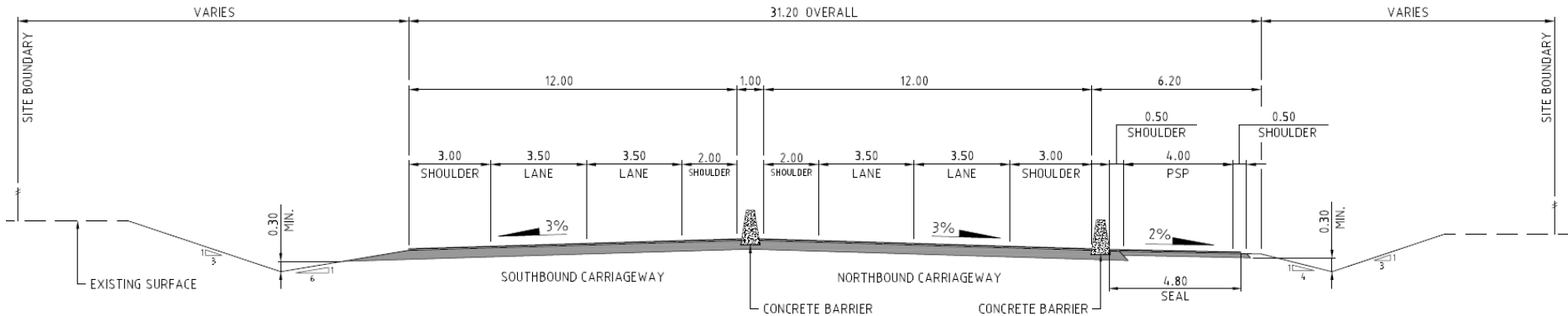
- For Ultimate Design
- Unkerbed where possible with runoff to swales/verge
- Kerbed where required for geometric/delineation or scour control
- Kerbed sections discharge to small frequent event basins or direct to verge depending on location



# Typical Ultimate Cross-Section



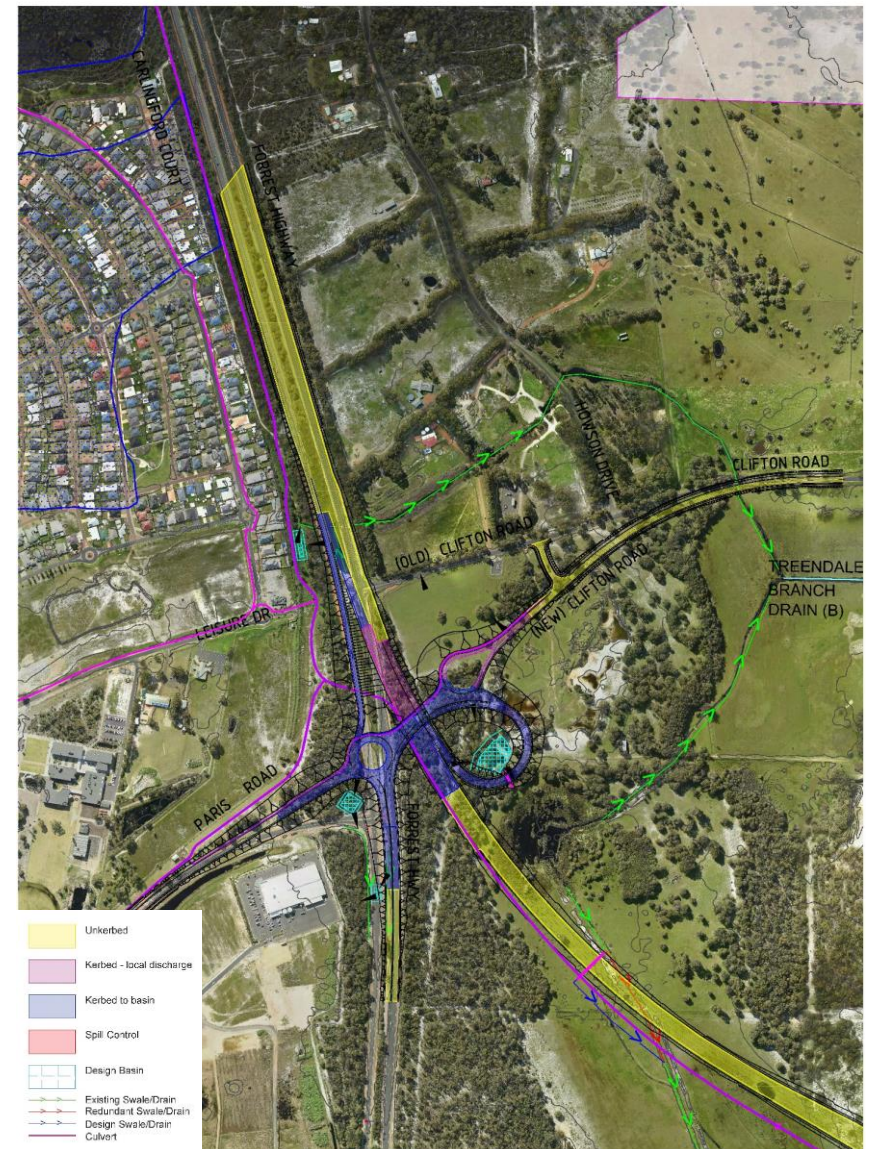
# Typical Ultimate Section - Constrained





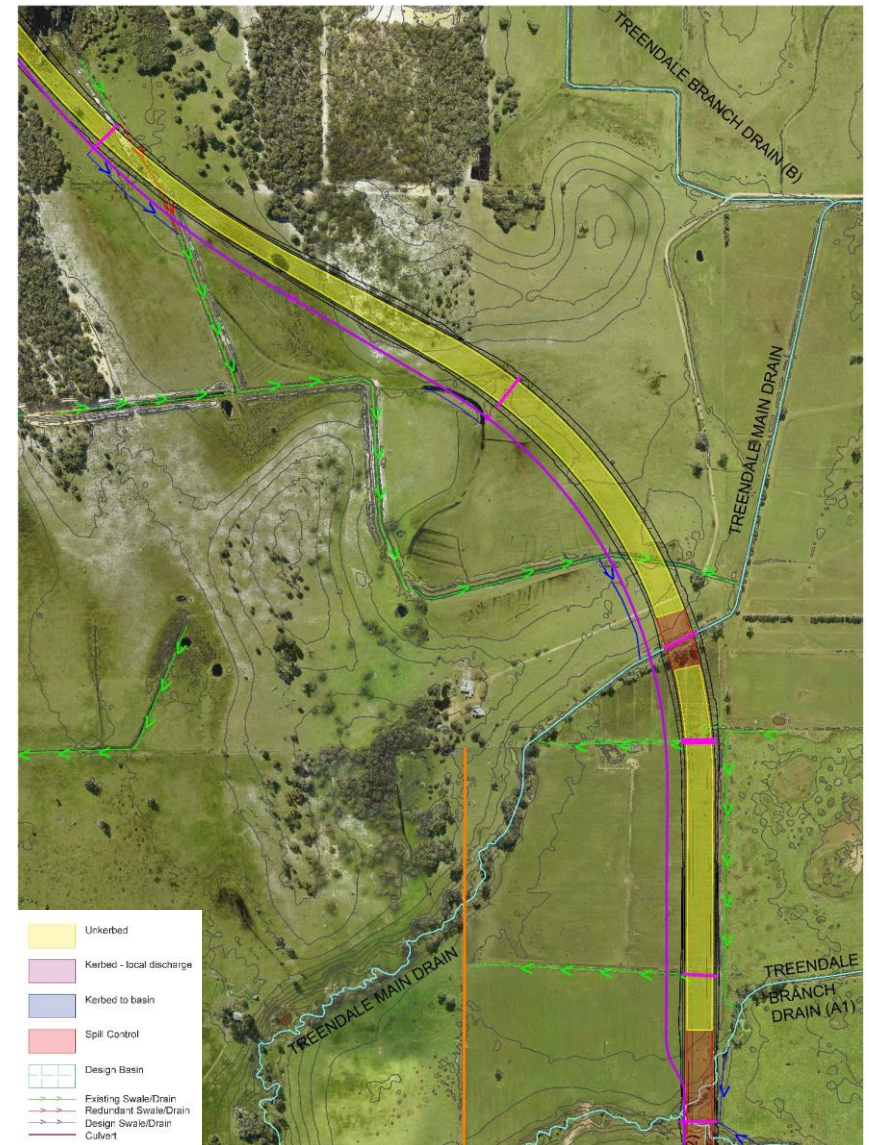
# BORR/Forrest Hwy Interchange

- Interchange kerbed for geometric / road safety
- No Wetlands (CC or RE)
- Unkerbed – runoff into swales/adjacent area



## BORR/Forrest to Raymond

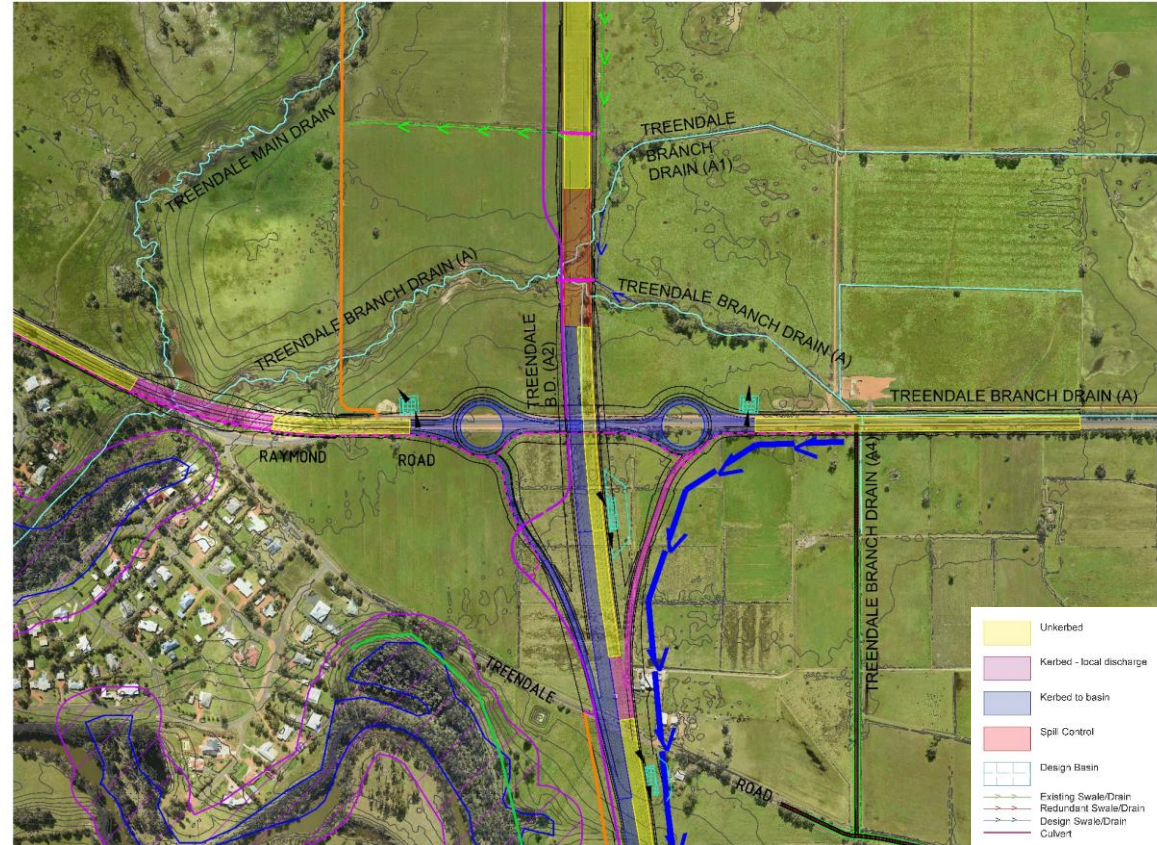
- Alignment crosses Treendale Main Drain, Branch Drain A & Branch Drain A1
- No Wetlands (CC or RE)
- Unkerbed – runoff into swales
- Kerbed/oil spill trapping at Water Corp Drains
- Some drain realignments required





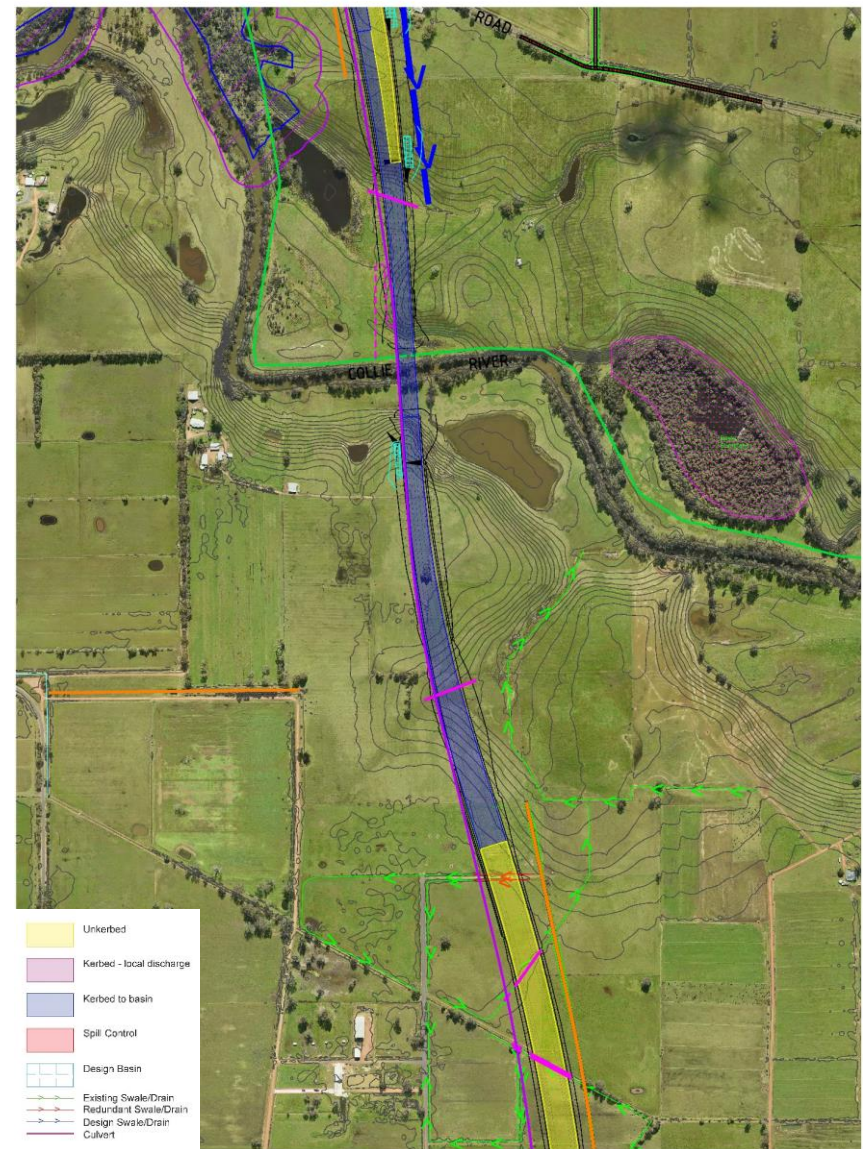
## Raymond Rd Interchange

- Crosses Treendale Main Drain system
- Collie River to south
- High flow diversion drain on east side
- Unkerbed main alignment in cut routed through basins for protection of Collie River



# Collie River

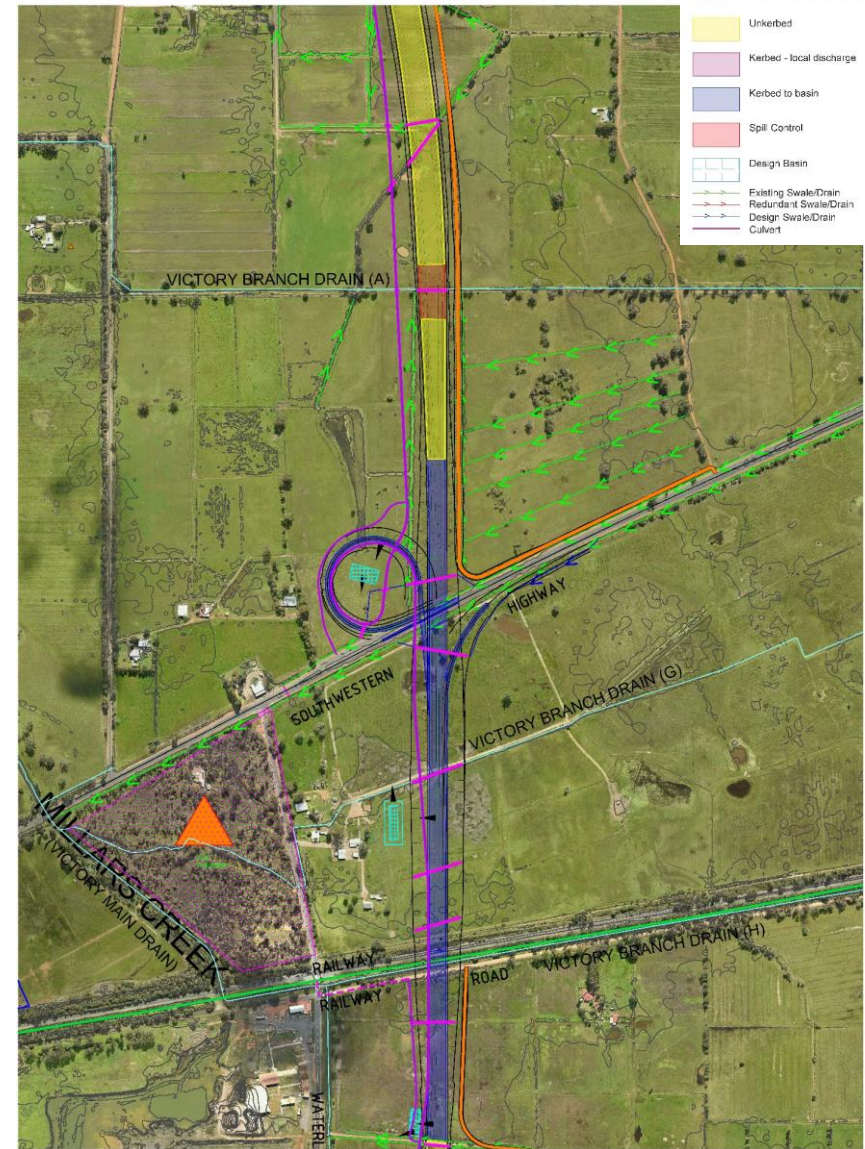
- RE wetland east/upstream of alignment
- Kerbed adjacent to Collie River for runoff control and scour protection
- Kerbed sections discharge to small frequent rainfall event / oil spill basins





## South Western Hwy to Railway Road

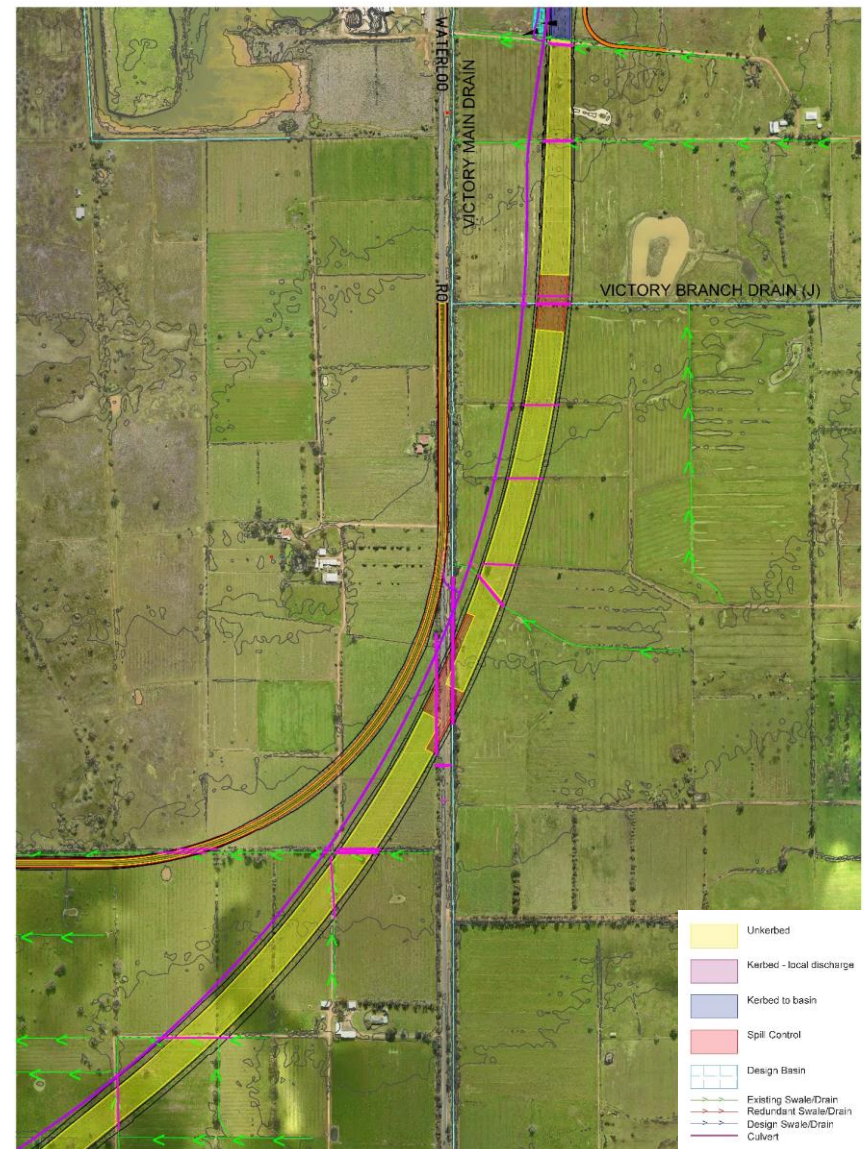
- BORR crosses Victory Branch Drains A, C & H
- Oil spill trapping at Water Corp drains
- RE Wetland & TEC to west of BORR
- Kerbed at approach to SWH & across rail for scour control
- Pit and pipe in kerbed sections discharge to small frequent event basins





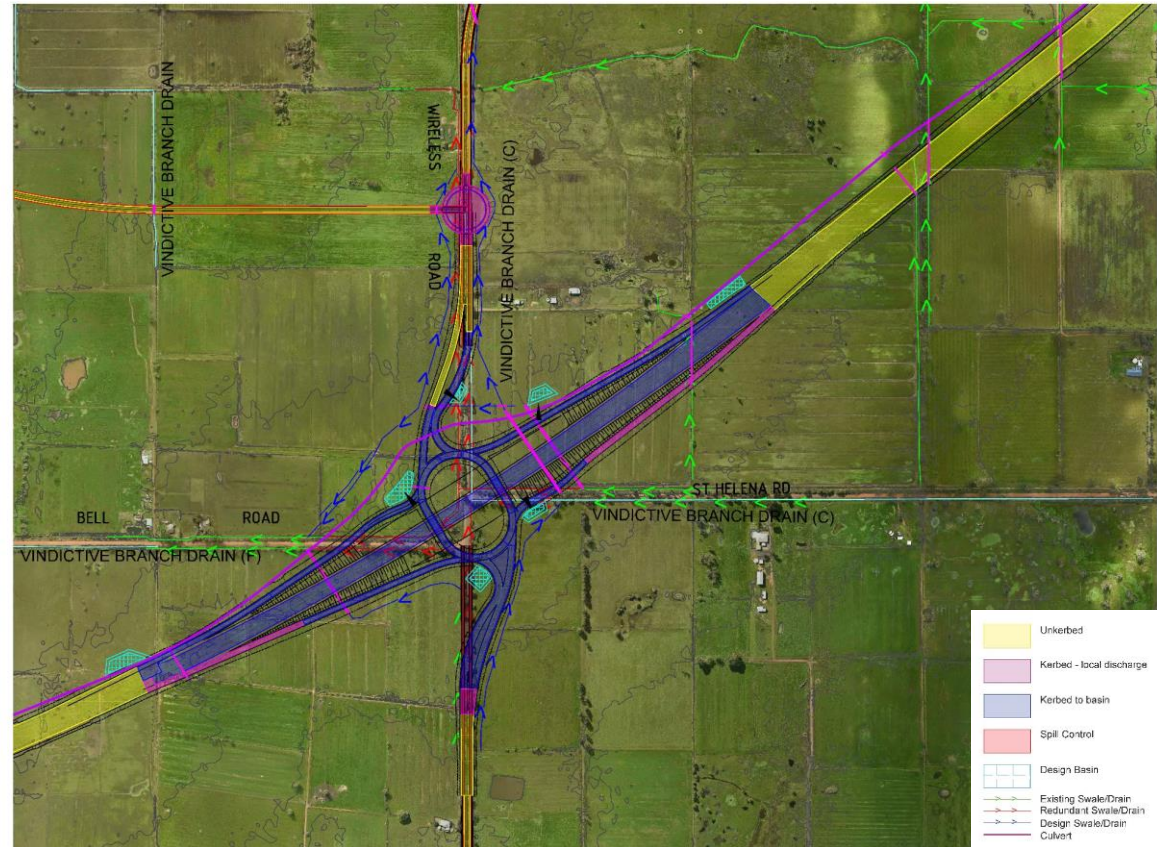
## Railway Rd to Waterloo Interchange

- Crosses Victory Main Drain and Branch Drain J
- Unkerbed and discharges to adjacent swales / area
- No wetlands (CC or RE)
- Culverts required for continuity of:
  - Water Corporation Drains
  - Harvey Water Irrigation
  - Farm irrigation supply & drainage



# Waterloo Interchange

- Interchange over Vindictive Branch Drain C
- Interchange kerbed for delineation
- Basins for larger catchments & proximity to Water Corporation drains
- Elsewhere unkerbed





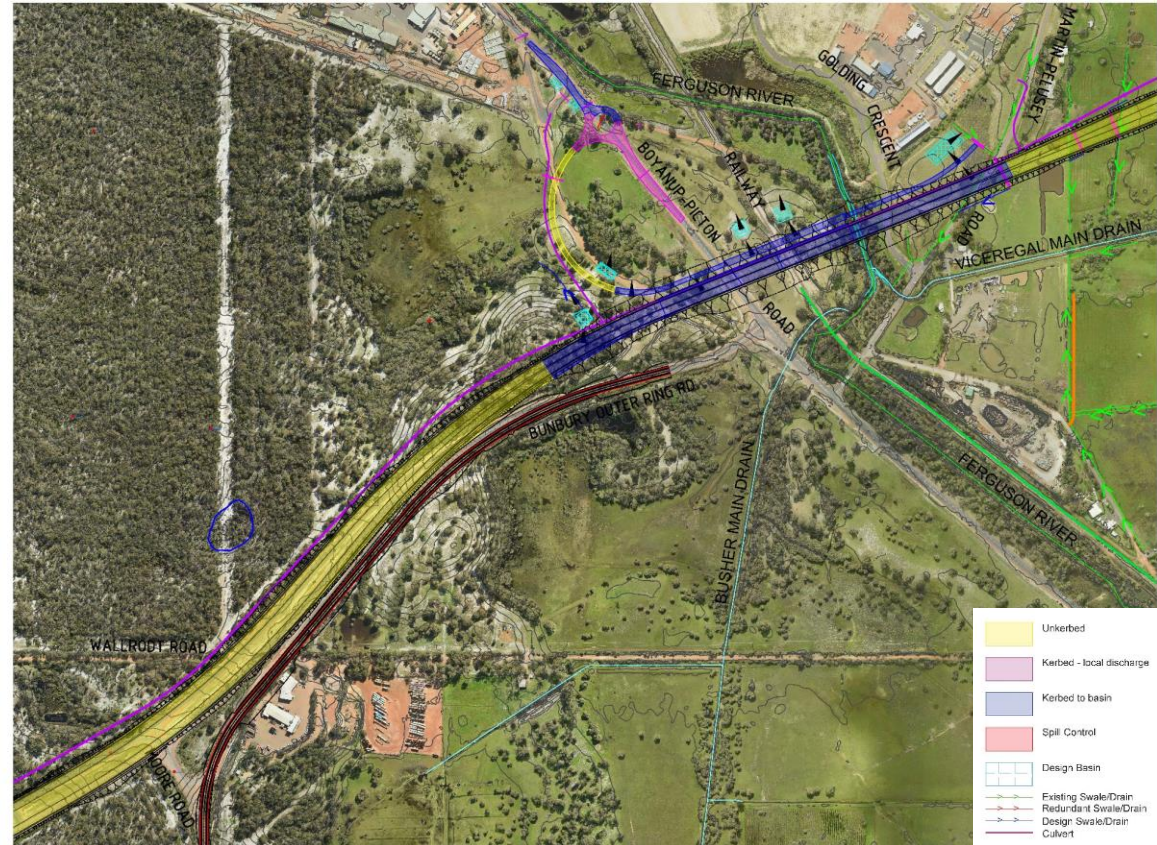
# Waterloo Interchange to Ferguson River

- Crosses Vindictive Main Drain
- Unkerbed to swales/adjacent land
- Kerb/oil spill trapping at Main Drain
- No wetlands (CC or RE)



# Ferguson River

- Crossing of Ferguson River
- Kerbed on approach and across Boyanup-Picton Rd to control scour
- Kerbed sections to small frequent event basins
- Unkerbed south of Boyanup-Picton Rd.





# Willinge Drive Interchange

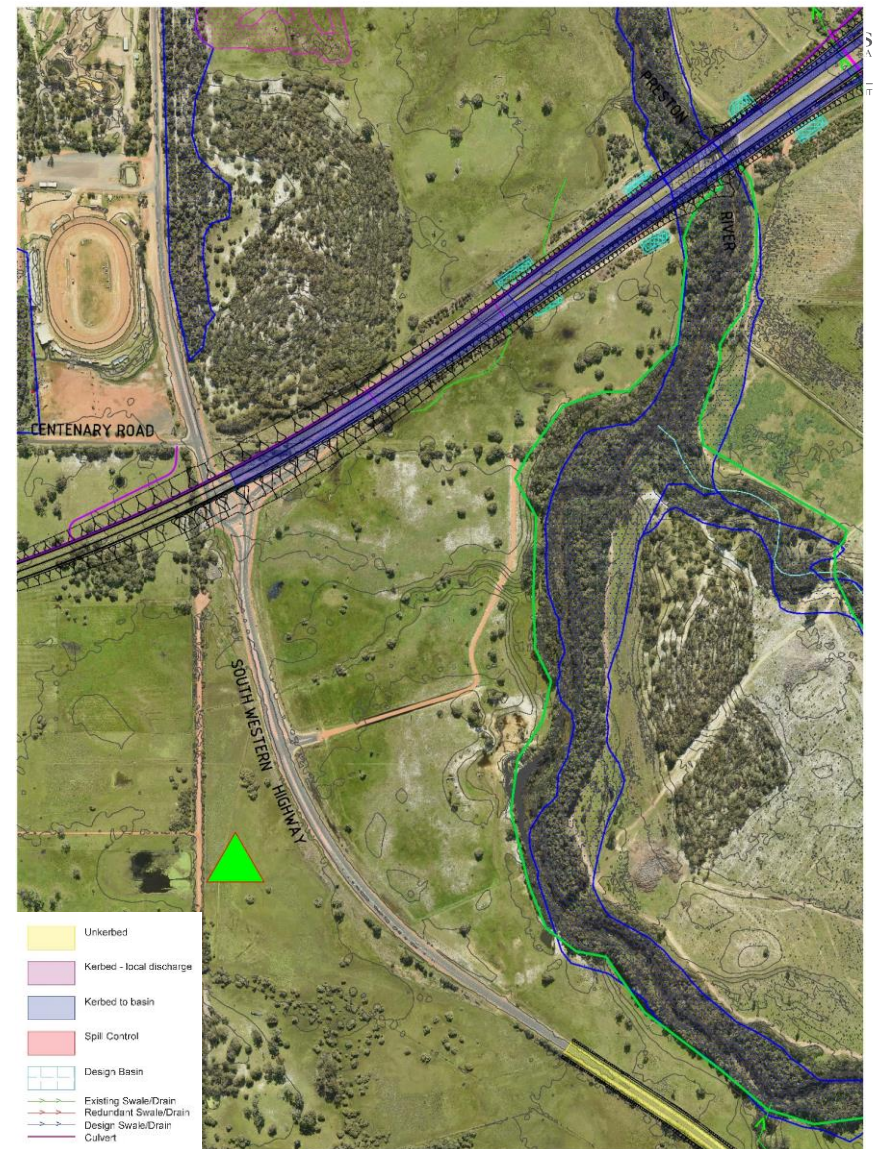
- Kerbed for geometric considerations / scour control
- Preston River crossing kerbed and discharged to small frequent event basins





## South Western Highway (South)

- Kerbed for scour control at South Western Highway and proximity to Preston River to the east
- Kerbed sections discharge to small frequent rainfall event basins adjacent highway and Preston River





# Willinge Drive Extension & SWH Roundabout

- Crosses Gavins Gully Main Drain and Preston River
- Unkerbed where possible
- Kerbing/spill control at Preston River and Gavins Gully Main Drain

