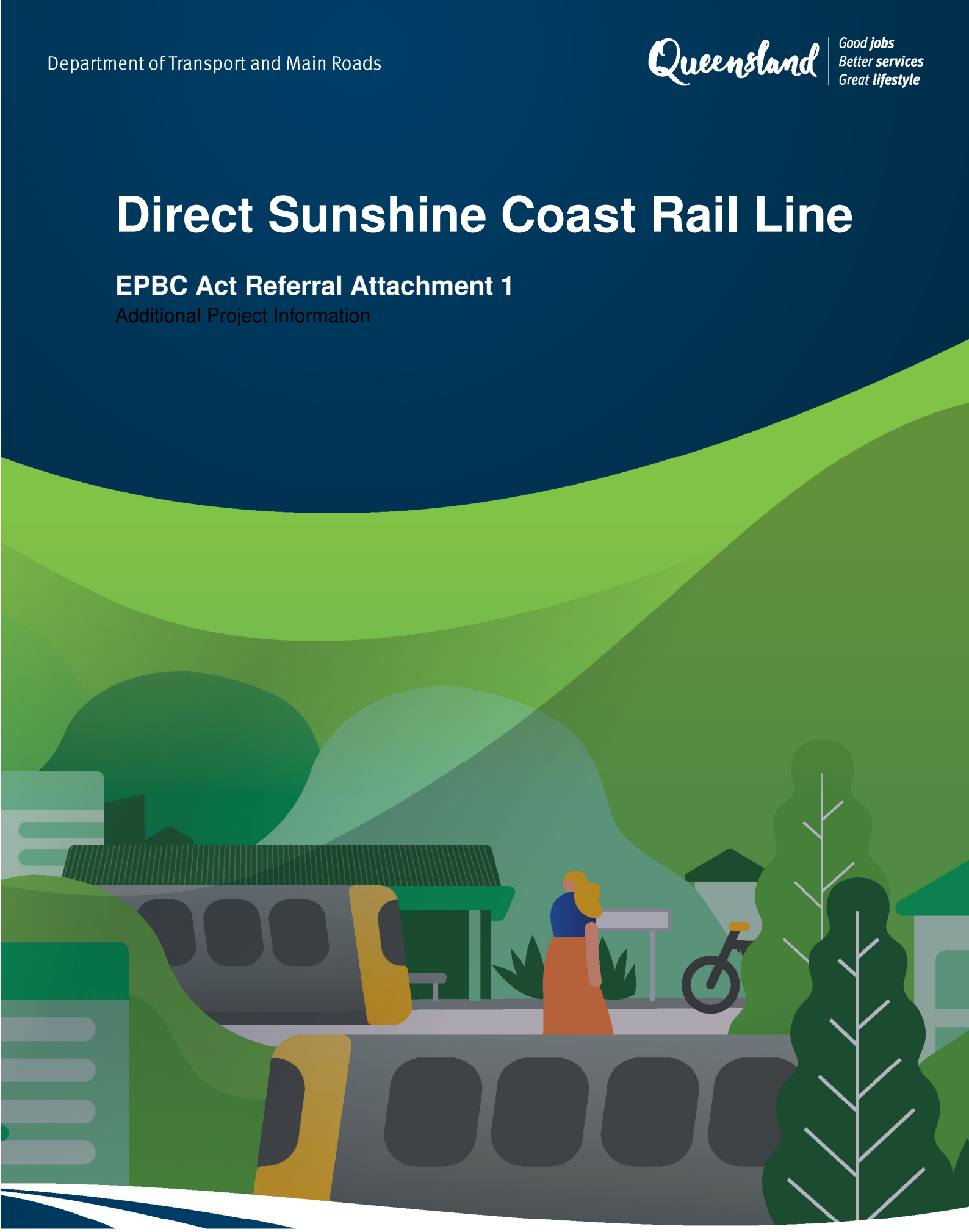
Department of Transport and Main Roads

Queensland Good jobs Better services Great lifestyle

Direct Sunshine Coast Rail Line

EPBC Act Referral Attachment 1

Additional Project Information



Australian Government | BUILDING AUSTRALIA

Queensland Government

1 Proposed action detailed description

Key features	Description of key features
Stage 1- Beerwah to Caloundra	
A new 19km long dual track rail line	the new rail line leaves the North Coast Rail line north of Beerwah Station, and continuing on a combination of embankment, bridges and viaducts to the proposed Caloundra Station.
Stabling yard at Beerwah	A stabling yard and staff facilities is proposed south of Kilcoy - Beerwah Road, to the south of Beerwah Station.
Beerwah Station upgrade	The existing Beerwah station will be rebuilt, with a side platform and an island platform (two sides), park and ride and kiss'n'ride facilities. Works in the existing rail corridor also include track straightening.
Grade separation over Steve Irwin Way	The rail line will be grade separated, with a rail bridge over road crossing at Steve Irwin Way and Bellbird Creek.
Active transport path	The project area includes an active transport path between Beerwah Station and the Intersection of Steve Irwin Way and Irwin Road.
Rail line through Beerwah State Forest	The rail line travels on embankment through Beerwah State Forest, with grade separation of forestry roads, and rail bridges over a tributary of Bluegum Creek and Mellum Creek.
Rail maintenance access roads	Rail maintenance access roads will be provided to access both sides of the rail corridor between Steve Irwin Way and the Bruce Highway.
Bridge over the Bruce Highway	The rail line crosses over the Bruce Highway on a bridge structure.
Railway at Aura	The rail line will be located within the dedicated public transport corridor, as it passes through the emerging suburbs of Banya, Gagalba and Nirimba. A rail maintenance access road is proposed on both sides of the rail line.
Nirimba (Aura) Station	A new station is proposed at Nirimba, within the Aura development. Includes car parking and kiss'n'ride.
Rail line on viaduct structure	The rail line transitions to structure as it crosses under Bells Creek Arterial Road, then curves to the north, traversing areas of wetland and vegetation west of Pelican Waters.
Caloundra Station,	Caloundra Station is proposed on structure, with car park, kiss'n'ride, and an at grade bus interchange. Active transport connections to the north, east and west.
Caloundra station access Road	New access roads are proposed from Pathfinder Drive and Pelican Waters Boulevard.
Power, signalling, safety and other rail systems infrastructure	Substations for traction power are proposed at Beerwah and Caloundra. The project area also provides allowance for signalling and other safety, fencing and rail systems infrastructure.

Key features	Description of key features
Noise management	The project area provides allowance for noise treatments at locations to be confirmed in upcoming assessments and design activities.
Fauna infrastructure	Fauna fencing and fauna infrastructure will be provided at various locations to be confirmed in upcoming assessments and design activities.
Temporary impact areas	The project area includes allowance for temporary impact areas including: • Construction laydown areas • construction access roads • construction compounds • construction water quality treatment
Stage 2 – Caloundra to Birtinya	
A new 7km long dual track rail line	The rail line exits Caloundra Station and crosses over Caloundra Road on a bridge structure, continuing north to Birtinya on a combination of tunnel, viaduct and embankment structure.
Tunnel	An approximately 2.2km long twin railway tunnel at Little Mountain, to a depth of up to 15m, including 980m of mined tunnel. It includes fire and life safety systems and mechanical and electrical systems.
Rail line on viaduct structure	The rail line runs on viaduct approximately 3.8km from Aroona, crossing on structure over Parklands Boulevard, Currimundi Creek and Kawana Way Link Road.
Aroona Station	Aroona station is proposed on a structure, with park and ride, kiss and ride and active transport connections. The majority of parking will be located under the rail structure. Station access road from Parklands Boulevard.
Active transport path	An active transport path is proposed along the edge of the residential area, with a new bridge crossing of Currimundi Creek, connecting to Creekside Boulevard at the intersection with Kawana Way.
Rail line on embankment	The rail line runs on embankment on the western side of Kawana Way, past the Sunshine Coast University Hospital precinct, Station Road and continues at grade or on embankment to the proposed Birtinya stabling location.
Birtinya Station	Birtinya Station is located adjacent to Station Road, with proposed park and ride located at the corner of Station Road.
Stabling at Birtinya	Stabling is proposed south of Main Drive at Birtinya, at the northern extent of the Stage 2 project area.
Power, signalling, safety and other rail systems infrastructure	Substations for power provision are proposed at each tunnel portal, and traction power feeder stations at the Birtinya Stabling yard. The project area also provides allowance for signalling and other safety, fencing and rail systems infrastructure.
Noise management	The project area provides allowance for noise treatments at locations to be confirmed in upcoming assessments and design activities.

Key features	Description of key features
Fauna infrastructure	Fauna fencing and fauna infrastructure will be provided at various locations to be confirmed in upcoming assessments and design activities.
Temporary impact areas	The project area includes allowance for temporary impact areas including: • Construction laydown areas • construction access roads, including loading areas for tunnel spoil haulage • construction compounds • construction water quality treatment.

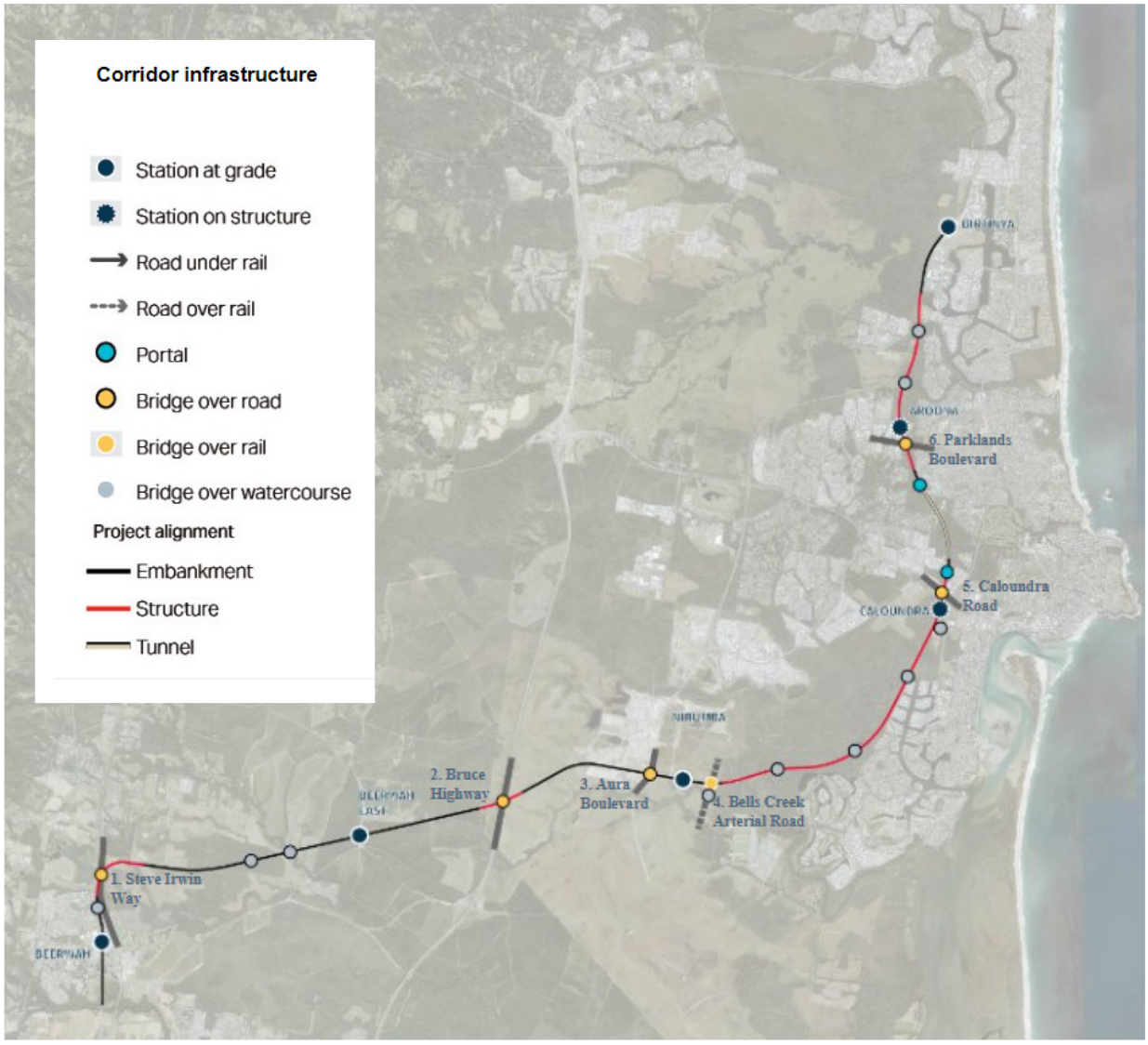


Figure 1 illustration of Proposed Action key features (not to scale) (Arup, 2024)

Section 2: Design refinements to avoid, minimise or manage potential impacts incorporated in the current design

Feature ID	Risk/ impact under previous corridor, prior to refinements	Outcome of design refinement activities during planning and design.
Stage 1 – Beerwah to Caloundra		
1	The dedicated public transport corridor (CAMCS) clipped the corner of the area formerly known as the Beerwah Forest Reserve. This area was gazetted in 2023 as Conservation Park by the Queensland Department of Environment and Science.	The project has been realigned around the northern edge of this area, and avoids direct impacts to the Beerwah Forest Reserve.
2	Preliminary Evaluation design included a stabling yard in Beerwah East that traversed Mellum Creek with likely impacts to the waterway and riparian areas.	Relocation of the proposed stabling yard at Beerwah East to south of Beerwah Station, adjacent to the existing North Coast Line. This Although this new location also has environmental sensitivities including native vegetation and impacts to tributaries of Coochin Creek, the footprint of the stabling yard has been refined since the Business Case design to minimise impacts to these values.
3	Impact to waterways and threatened ecological communities between Beerwah and the Bruce Highway, at the crossing of Mellum Creek.	The project design now deviates approximately 300m south from the original proposed crossing location of Mellum Creek and its adjoining tributary, avoiding Lowland Rainforest of Subtropical Australia TEC and migratory bird habitat associated with a large farm dam.
4	Embankment west of the Bruce Highway with associated severance of narrow vegetated north/south corridor which links two portions of the Glass House Mountains National Park.	The proposed bridge crossing of the Bruce Highway has been extended west such that the rail will be on bridge over the vegetated area, which then maintains a link between the two portions of the Glass House Mountains National Park.
5	Railway on embankment in wetland area between Bells Creek and Caloundra would generate significant flooding	The project has been designed on a viaduct to mitigate flooding impacts. This viaduct also results in a narrower cross section, which will result in a smaller environmental impact during

Feature ID	Risk/ impact under previous corridor, prior to refinements	Outcome of design refinement activities during planning and design.
	and require wider clearing for construction and ultimate provision of the rail corridor.	construction and longer term compared to embankment. The alignment has also shifted slightly west of Pelican Waters compared to the CAMCOS corridor alignment. Station also removed from this area, reducing the disturbance area.
6	Height of railway viaduct impedes fauna movement.	The project has been designed to be on viaduct between Bells Creek and Caloundra. The design height of the viaduct was raised to present less of a barrier to fauna movement. The business case design and current project design included review of fauna movement pathways and identification of opportunities, including incorporation of rope bridges (under viaduct), culverts and fauna fencing to facilitate fauna movement. This is particularly relevant between Bells Creek and Caloundra. Opportunities will be pursued in the next stages of design to incorporate appropriate fauna movement infrastructure throughout the project area where key fauna movement locations have been identified. Fauna movement opportunities are detailed in the Fauna Connectivity and Movement Strategy which is attached as Att 3 to the Referral.
7	"In corridor" active transport was included in the Preliminary Evaluation between Bells Creek and Caloundra adjacent to the rail corridor. Active transport at ground level from Bells Creek to Caloundra requires additional clearing, has flooding impacts and inhibits replanting OR Active transport on structure requires construction of a significant structure beside the rail corridor, also requiring larger construction envelope and ultimate cross section.	"In corridor" active transport infrastructure has now been removed from scope between Bells Creek and Caloundra, with out of corridor solutions identified via the existing Aura (Caloundra South) active transport network. This minimises the overall project cross section from Bells Creek to Caloundra and reduces flooding risk.

Feature ID	Risk/ impact under previous corridor, prior to refinements	Outcome of design refinement activities during planning and design.
8	Cultural heritage impacts from vegetation clearing and ground disturbance.	The key area of impact to sensitive vegetation in this section of the corridor is between Bells Creek and Caloundra. This area of the corridor is elevated on viaduct which minimises the footprint of the infrastructure and the associated hydrological, acid sulfate soils and fauna movement impacts that would occur if it were on embankment. The removal of the originally Pelican Waters Station (CAMCOS 2001) also reduces the disturbance area. The active transport corridor, which was proposed in the preliminary evaluation design to be on embankment and follow the corridor between Bells Creek and Caloundra, was modified in the business case design to incorporate the existing and proposed active transport path on the Bells Creek Arterial Road, Aura Boulevard and Bellvista Boulevard through to Pathfinder Drive. The proposed active transport alignment significantly reduces the extent of vegetation clearing, habitat disturbance and hydrological impacts through the Bells Creek to Caloundra area. A Rail Maintenance Access Road (RMAR) is not proposed between Bells Creek Arterial Road and Pelican Waters Boulevard. An at-grade rail access track for intermittent planned maintenance of structures is proposed. This will reduce the clearing footprint and hydrological impacts in this area.
9	Clearing of remnant vegetation and Threatened Ecological Communities within the project area.	
	Acid sulfate soils between Bells Creek and Caloundra with potential for ecological, soils and water quality impacts, requiring careful management.	
	Indirect impact to adjacent Ramsar wetland from impacts to soils, surface water and groundwater.	
10	Impacts to waterways at waterway crossings.	Waterway crossings have been designed where feasible as bridge crossings to minimise impacts to riparian areas, fish passage and fauna movement. Opportunities identified for future design stages: • Design to further minimise infrastructure footprint in riparian areas of waterways, including Coo chin Creek, Mellum Creek, Bells Creek and Lamerough Creek West

Feature ID	Risk/ impact under previous corridor, prior to refinements	Outcome of design refinement activities during planning and design.
		• Construction working area to be minimised at waterways and setback from riparian zones.
Stage 2 – Caloundra to Birtinya		
11	Previous planning proposed the corridor be constructed as a single track through a cutting and short tunnel section at the Caloundra Town Reserve, which would impact on vegetation and areas of cultural significance.	The project design now reflects twin tunnels (approximately 2.2km in total, with 980m of mined tunnel) beneath the Caloundra Town Reserve, therefore minimises vegetation clearing and impacts to fauna movement and recreational areas.
12	rail line on embankment, impacting fauna movement opportunities, vegetation clearance and wider disturbance areas.	The corridor is on viaduct between Aroona and north of Currimundi Creek which creates less of a barrier to fauna movement than rail on embankment. Business case design has included review of fauna movement opportunities, including incorporation of rope bridges, culverts and fauna fencing to facilitate fauna movement. Areas of potential rehabilitation have also been identified. There is an opportunity in future design stages to incorporate fauna movement infrastructure and revegetation throughout the corridor where key fauna movement locations have been identified. Fauna movement opportunities are detailed in the Fauna Connectivity and Movement Strategy (Attachment 3 to the referral).
13	previous designs proposed a larger disturbance area associated with Aroona Station and car park areas.	At Aroona Station and Birtinya Station, the business case design moved the location of proposed park and ride facilities out of vegetated areas into existing disturbed areas north of Parklands Boulevard and east of Station Road respectively. This has been maintained in the project design and will be refined as the project progresses.
14	Previous studies proposed a station at Creekside.	This station is no longer part of the project, thus reducing the impact footprint and clearing extents in this area where the alignment is on structure. This includes a reduction of impact to TECs.

Section 3: Options assessment history

The following sets out a brief planning history of options analysed for the DSC Project.

Planning Study	Options Assessed
Caboolture to Maroochydore Corridor Options Study (Queensland Transport, 1998)	• corridor options assessed on engineering, environmental and social matters, alongside an assessment of traffic, land use, amenity and transport issues with economic considerations. • Proposed station locations
Caboolture to Maroochydore Impact Assessment Study and Land Use Transport Study (Queensland Transport 2001)	• Transport modes (dedicated busway, guided busway, light rail, passenger rail, monorail, maglev) • Implementation options – staged delivery over time via a combination of rail and busway solutions, with rail initially identified from Beerwah to Caloundra
Direct Sunshine Coast Rail Line Detailed Business Case Summary (TMR, March 2024) (refer to https://www.yoursay-projects.tmr.qld.gov.au/download_file/5023/1208	• Corridor refinements within and around previously protected alignment to meet modern rail standards (Queensland Rail Standards and Requirements) • Station locations (including station consolidation based on evaluation of engineering challenges, access challenges and impact to environment and heritage) • Modes (Road, busway and rail)