



## Rail construction

## FACT SHEET

Gold Coast Light Rail Stage 2 involves the design and construction of a new 7.3km route which runs from Helensvale heavy rail station on the Gold Coast Line, then adjacent to the Smith Street Motorway to connect with Stage 1 at the Gold Coast University Hospital light rail station.

GoldLinQ and CPB Contractors have committed to completing the project in time for the Gold Coast 2018 Commonwealth Games.

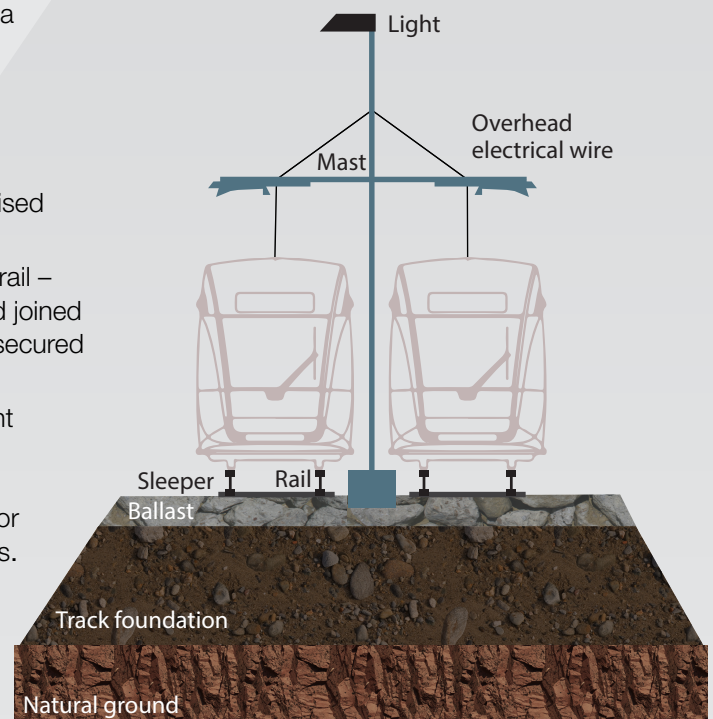


ALUMINOTHERMIC WELDING

### CONSTRUCTION STAGING

Construction of the Gold Coast Light Rail Line is completed in a series of major activities including:

- Constructing the formation (earthworks).
- Delivering and compacting rock material called 'ballast' using trucks, a front end loader and grader.
- Placing concrete sleepers using an excavator with a specialised 'octopus' attachment.
- Laying and welding together pre-prepared sections of steel rail – lengths of up to 140m long will be dragged into position and joined together using 'aluminothermic' welding. The rails are then secured to the sleepers.
- Placing and levelling additional ballast into place using a front end loader. A track mounted tamper machine then lifts and aligns the steel rail using vibration to settle the ballast. This activity is repeated numerous times to ensure stability for the sleepers and passenger operations during rail operations.
- Rail will be embedded in concrete around station areas and at road intersection crossings similar to Stage 1.
- Installing over-head equipment including masts, contact wire and other on-ground electrical equipment.



If you have any questions or would like to register for more information, please contact the CPB Contractors Project Team

# Stage 2

## Gold Coast Light Rail

### Noise and vibration

Some rail construction activities can be noisy, such as when trucks are delivering ballast or when the tamping machine is being used. It is usual that some vibration may also be felt by residents during these activities.

Every effort will be made to keep disruption to a minimum during these important works. Our team is available to meet with residents to discuss these activities. Please contact us to arrange a suitable time.



TAMPER MACHINE



### Intersection/roadway rail construction

- Excavation of asphalt within an intersection.
- Precast concrete sections are delivered and lifted into position along the alignment.
- Steel plates are placed over the precast concrete sections until completion.
- Once the precast concrete sections are in position, lengths of rail are installed and joined together using 'aluminothermic' welding.
- Rail adjustments are carried out to ensure rail meets the required vertical and horizontal geometry.
- After the rail adjustments are completed, a grout type substance is applied to fill the voids around the rail and to hold the rail in its final position.



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