EMU, Depot and Electrification Infrastructure

Transport Committee
7 December 2011





AT Team

- Claire Stewart Rail Development Projects (EMU, Depot, City Rail Link)
- Tom Salt EMU Project Director
- Steve Hawkins Depot Project Director
- Nick Seymour Electrification Infrastructure Works



Presentation Overview

- EMU Delivery
- Depot
- Electrification Infrastructure
- Q&A



EMU

Overview

- Timeline
- Operation
- EMU Configuration
- Key Passenger Features
- User Group Engagement



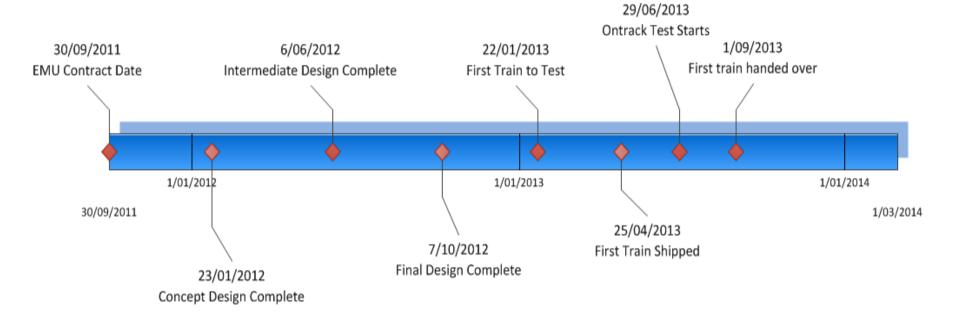
CAF





Timeline

- First train available for service end 2013
- Full fleet in service mid 2016





EMU

Operation

- From Papakura in the **South**
- On Eastern line
- From Swanson on the Western line



Configuration

- Overall configuration
- Doors
- Manufacturing
- Power & Efficiency
- Technical Specifications





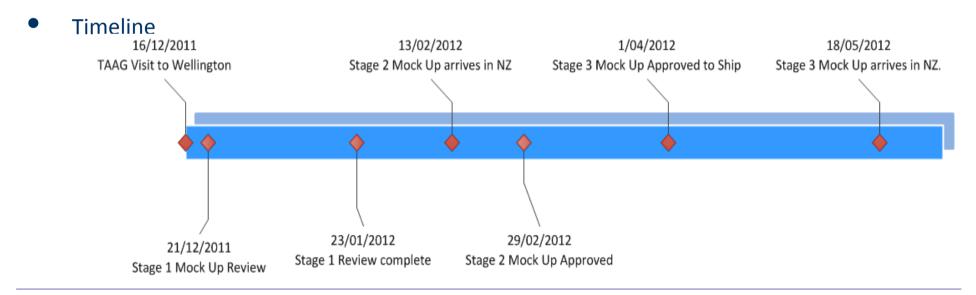
Key Passenger Features

- Capacity 230 seats, 143 standing room, total 373
- Accessibility
- Passenger Information System State of the Art
- Passenger Security



User Group Engagement

- Cross section of user groups
- TAAG review passenger interfaces
- Mock ups, images from CAF and December (door, seating layout, wheelchair, bicycle spaces, passenger communications





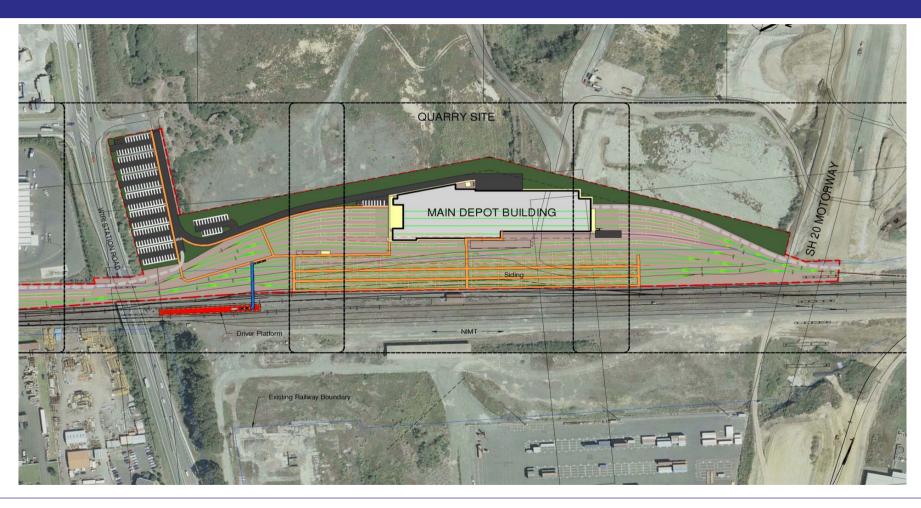
Depot

Overview

- Layout
- Building
- Programme

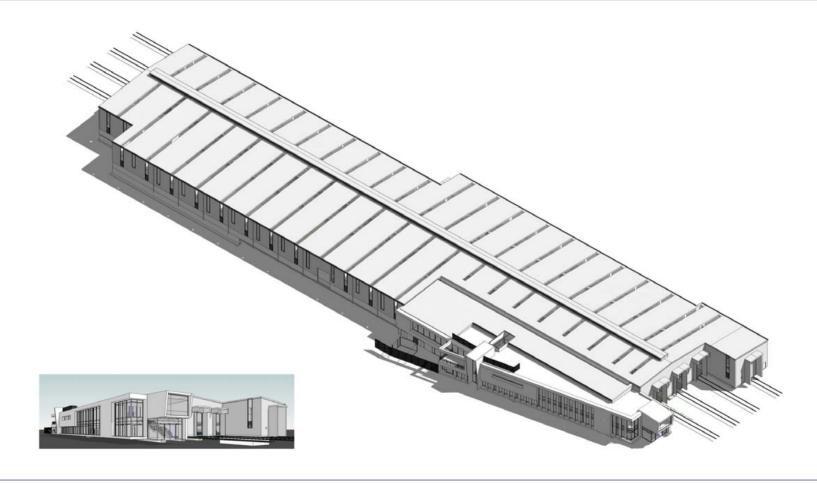


Layout





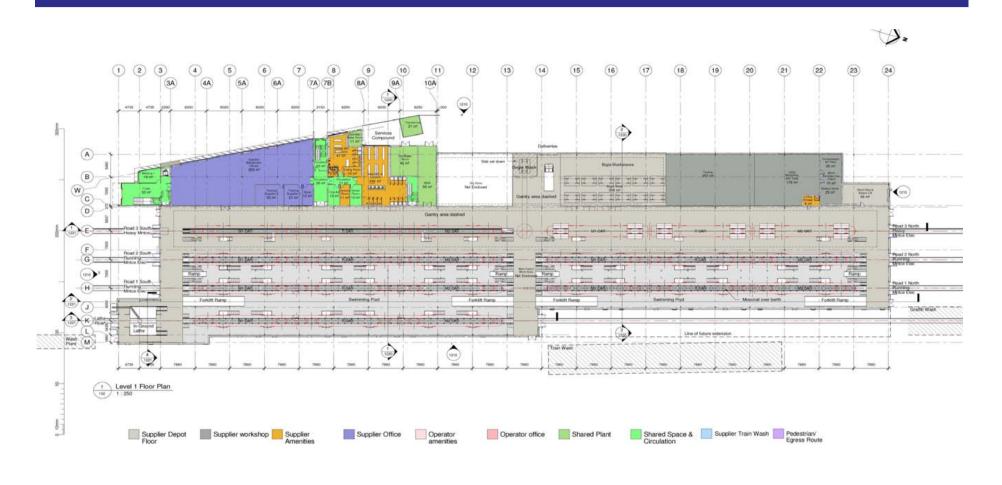
Building





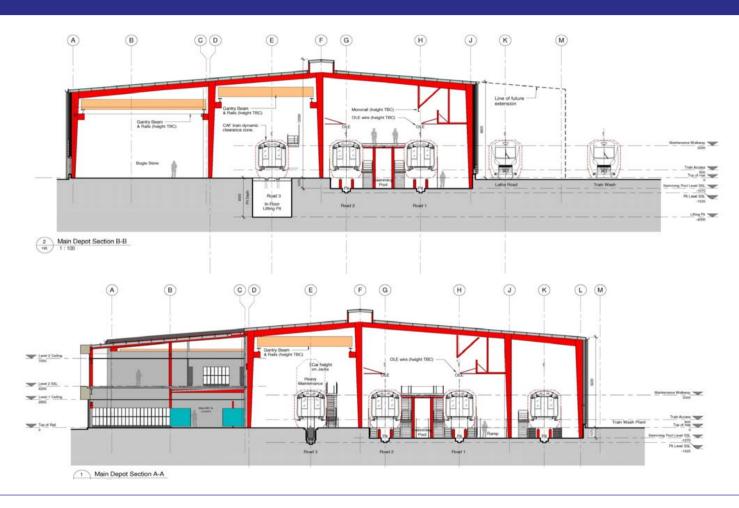
Depot

Building ground floor





Building sections





Programme

EMU Depot Procurement Programme



ID	Task Name	Duration	Start	Finish	2012													20				
					Aug Ser	Oct	Nov [Dec	Jan	-eb №	1ar Ap	rMay	Jun .	Jul A	ug Se	p Oct	Nov	Dec J	an Fe	b Mar	AprM	ay Jun
1	Earthworks contract	98 days?	1 Nov	15 Mar																		
2	Stage 2 design	25 days	12 Aug	15 Sep								1									Ĭ.	
3	50% developed design	2.7 mons	16 Sep	30 Nov																		
4	100% developed design	3.15 mons	1 Dec	27 Feb										Ť								
5	Procurement	131 days	7 Nov	7 May																		
6	Major plant	55 days	15 Nov	30 Jan																		
7	Tender	8 wks	15 Nov	9 Jan					٦													
8	Assessment	3 wks	10 Jan	30 Jan												Ī						
9	Award	0 mons	30 Jan	30 Jan					4													
10	Main construction contract	131 days	7 Nov	7 May																		
11	Expression of interest	50 days	7 Nov	13 Jan		П																
12	Prepare and issue document	2 wks	7 Nov	18 Nov			-															
13	Contractors preparing EOI	4 wks	21 Nov	16 Dec			Y	-														
14	Assessment	4 wks	19 Dec	13 Jan			T		P													
15	Announce shortlisted tenderers	0 mons	13 Jan	13 Jan					•													
16	Tender	113 days	1 Dec	7 May																		
17	Prepare and issue document	6 wks	1 Dec	11 Jan			61			\neg												
18	Contractors preparing EOI	6 wks	28 Feb	9 Apr																		
19	Assessment	4 wks	10 Apr	7 May							*	-										
20	Award	0 mons	7 May	7 May								•										1
21	Construction	280 days	8 May	3 Jun		İΠ					i					T						
22	Depot building	14 mons	8 May	3 Jun					T							-		_				
23	Stabling and other civil works	14 mons	8 May	3 Jun		П																
24	Handover to CAF	0 days	3 Jun	3 Jun																		*



Overview

- Project Update
- Key Stations
- Bridge Raising
- AEP Traction, Earthing and Bonding
- Training and Communications



Project Update

- Key stations, Parnell, Papakura, Swanson, Onehunga, Ellerslie
- Bridge Raising Works
- Installation of the AEP Traction Equipment
- Installation of Earthing, Bonding and Screening Equipment
- Communications/Training for the Auckland Electrified Area



Key Stations

- Parnell and Papakura: Significant track works over Christmas block of line being undertaken by KRG. Station designs to follow, construction commencing in 2012
- **Swanson**: Joint project with KRG. Land designation issue park and ride being finalised, construction phase P&R early 2012, Stn to follow
- Onehunga: First line to be commissioned by AEP
 - Platform extension design underway for 3 car EMU in coordination with KRG's AEP team
- Ellerslie: KRG bridge raising combined with NZTA motorway widening and narrowing of station platform
 - Substantial works over Christmas block of line Include new lifts, stairs, additional shelters
- Further platform extensions may be required pre 2010 upgraded stations



Bridge Raising

- Substantial workload over Christmas block of line
- Bridgeworks at Orakei Road, Morrin Road and Mt Wellington to include widening and road realignment
- Mountain Road Bridge replacement AT (AMETI) leading
- Pedestrian Footbridges Ellerslie, Puhinui, and Otahuhu South
- Minor pedestrian bridge raising at Orakei Station, where existing span and infrastructure can still be used
- Planning advanced in preparation for substantial completion of all bridges during
 Christmas rail closure



AEP Traction, Earthing and Bonding

- AEP works on at stations;
 - Coordination and support to KRG for Gantry installation on stations
 - Station upgrade overhead line clearances ongoing coordination with KRG
 - Earthing and bonding at Stns December 2011 (Onehunga) to August
 2012 (Otahuhu). KRG to coordinate with AT
 - AT working with KRG to minimise Impact on operations
- AEP Wide bridge screening (Overhead line physical barriers at Bridges and Stations.)
 - Detailed Design well advanced
 - AT/KRG and Auckland Council ongoing coordination



Training and Communications

- Auckland Electrified Area (AEA) training underway AT/Contractors
 - Half day training course for all staff/Contractors on/about rail or close proximity to overhead lines. Training module well underway, further courses ongoing
- AT continue to provide support to KRG on AEP Comms, including public information days and Local Board presentations
- Significant increase in Comms in lead up to Electrification "Go Live"
- AEP once complete will have a significant impact on;
 - Programme and Capital costs for future rail projects
 - Methodology and costs of maintaining AT stations (e.g. use of hoses, ladders, etc.)

