

Linear and Discrete Asset Management at the Clem Jones Tunnel (CLEM7)

Clare Scanlon, Asset Engineer, Brisbane Motorway Services

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Brisbane Motorway Services

A Joint Venture between Leighton Contractors and Conneq (formerly Bilfinger Berger Services Australia)

Leighton Contractors - one of Australia's largest and most diverse engineering companies.



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Conneq - a specialist engineering, construction and asset management contractor, creating, operating and maintaining vital public and industrial infrastructure in Australia, New Zealand and the region



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Our Role at CLEM7 Tollroad

BMS has a 45 year contract to operate and maintain the CLEM7 tollroad linking Woolloongabba in Brisbane's south with Bowen Hills in the North.



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Our Role at CLEM7 Tollroad

This link is being extended to Brisbane Airport with the construction of the Airport Link tollroad due for completion in 2012.



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Our Team

The Asset Engineer manages the flow of asset information from Maintenance to Management



Maintenance



Asset Engineer



Management

Operations

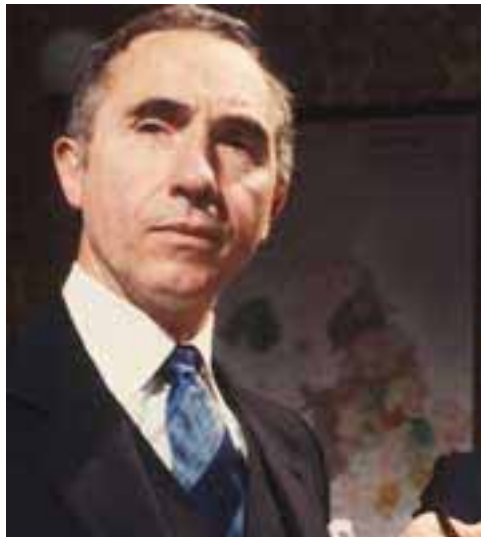
Administration and Finance

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Project Timeline – Strategic Approach

Our approach was to develop and implement Maximo to meet the strategic needs of our business *as they evolve*.



“Rome wasn’t built in a day, Minister!”

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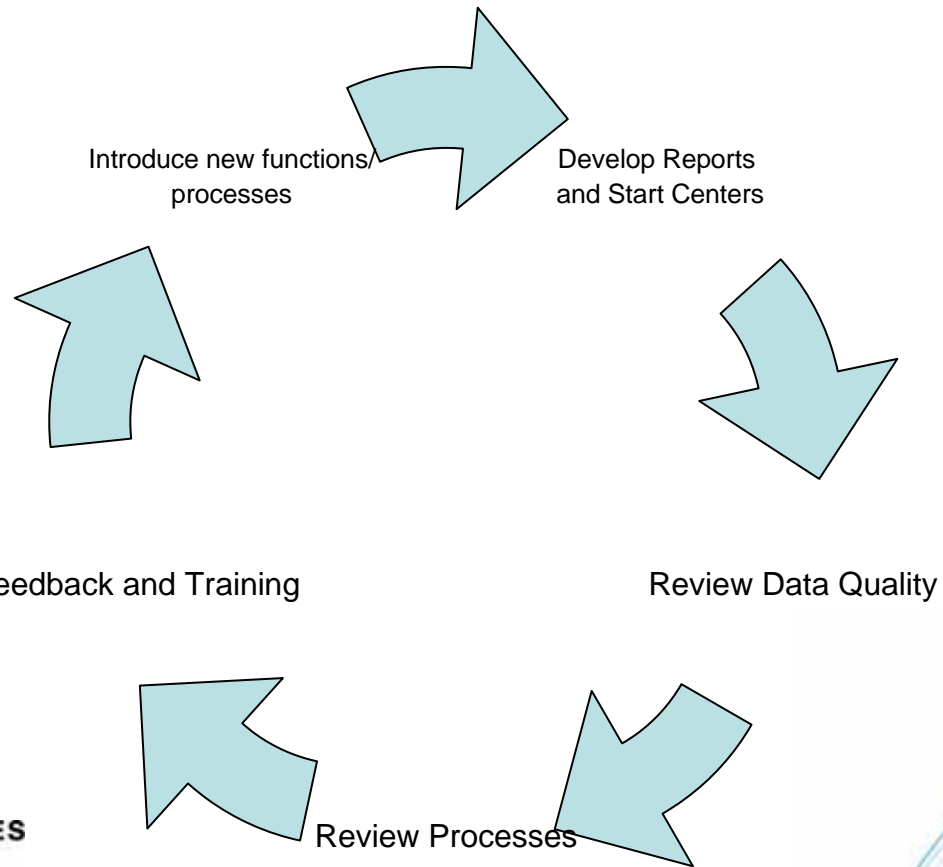
Project Timeline – Key Activities

- 2006 - Construction of CLEM7 commences.
- 2007 - GM commences
- 2008 - Select AMS, Develop Business Rules
- 2009 - Collect asset data
- 2009 - Select hosting platform
- January 2010 - AMS Implementation – data load
- February 2010 – AMS Implementation – testing
- March 2010 - Staff Training
- **March 15 2010 – TOLLROAD OPENS**

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Project Cycle Operations Phase



Staff Feedback and Training

Review Data Quality

Review Processes

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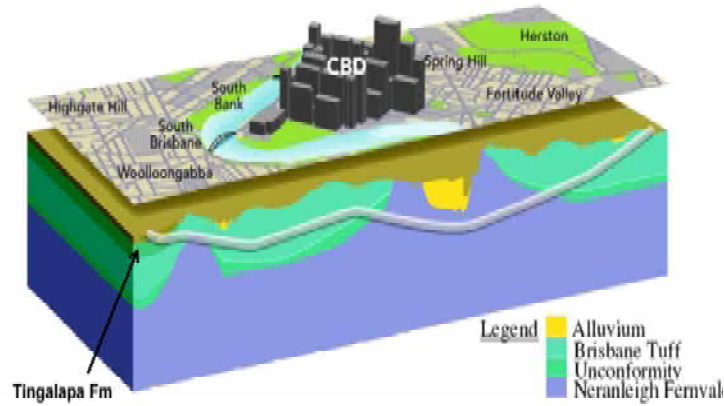
Post Go-Live Improvements

- Staff Engagement
- Data Quality
- Linear Asset Manager
- Planning and Scheduling
- Condition Assessment
- Mobile Solution
- Workflow
- Asset classification and specifications

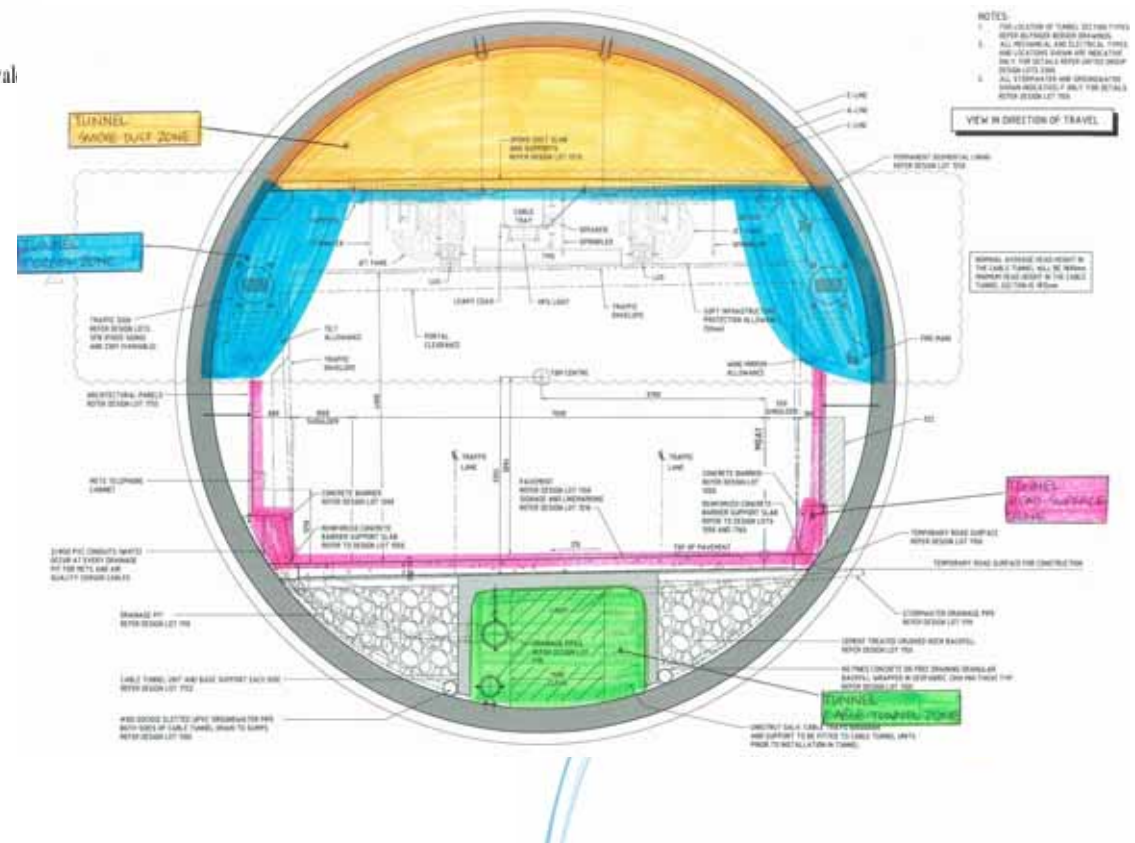
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Maximo Linear



Tunnel drive through

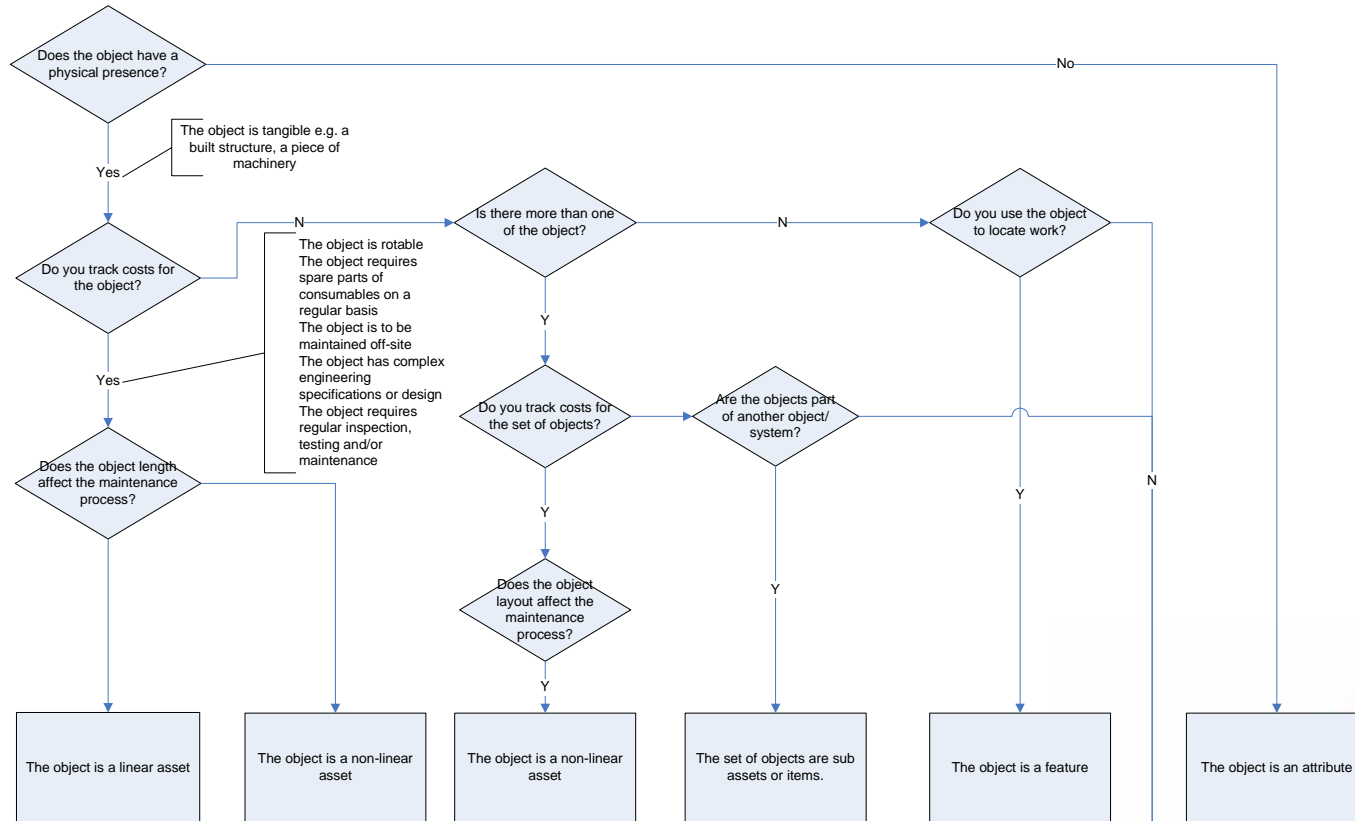


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Maximo Linear

Is it a Linear Asset?



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The object probably does not need to be in the AMS

Maximo Linear

Linear Demonstration – SSL access provided by Sharp
Business Solutions

<https://bmstest.sharpsolutions.com.au/maximo>

[Screen Shots](#)

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Works Management

Live traffic is the major safety hazard...



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Works Management

...so most maintenance activities take place during agreed closure periods.

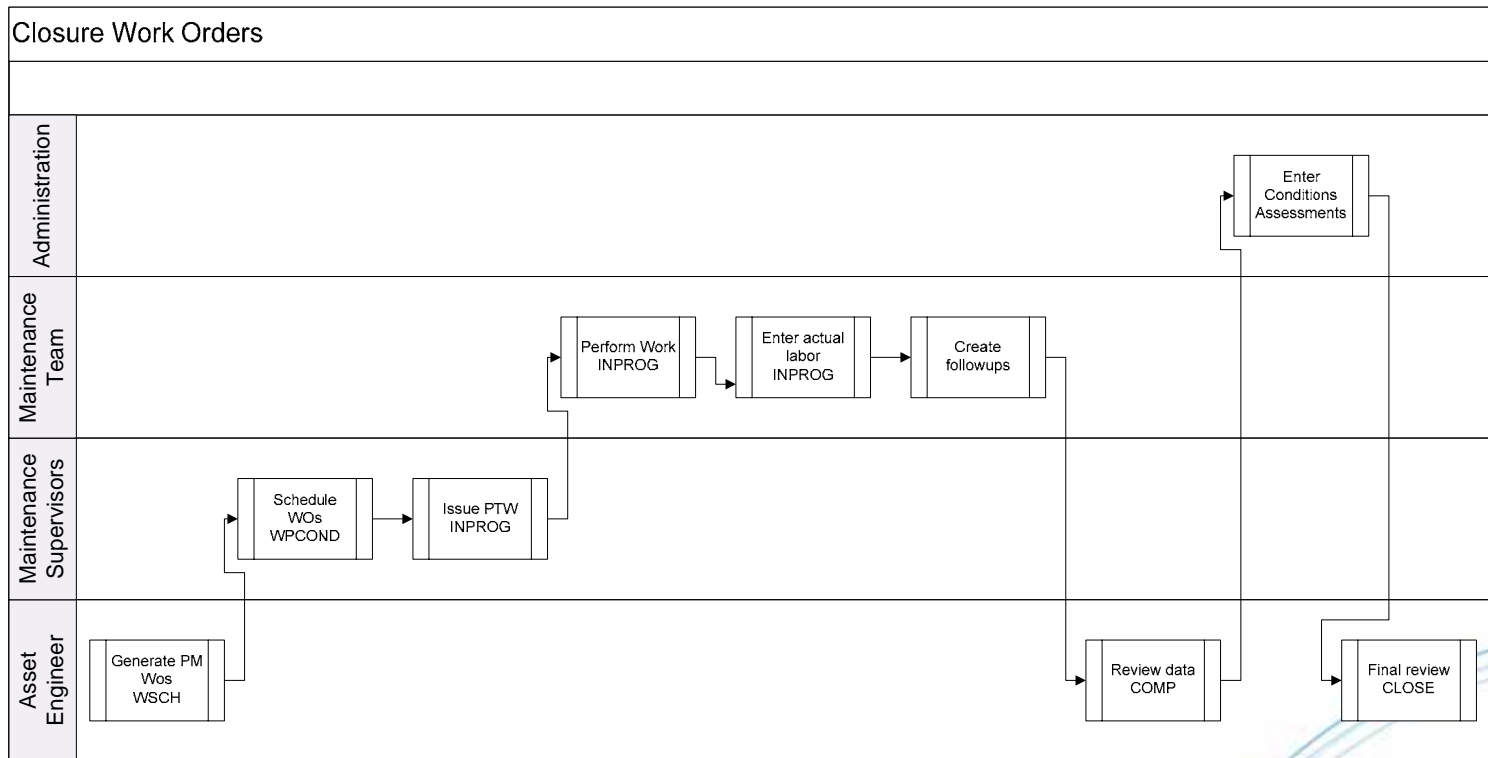


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Works Management

Closure planning begins 6 to 8 weeks prior to the closure



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Work Order Completion

Asset and labor information is recorded and entered into Maximo

CLEM Clem Jones Tunnel		AIR QUALITY MONITORING SENSOR MONTHLY INSPECTION SHEET			BRISBANE MOTORWAY SERVICES BILFINGER BERGER Services			
WO Number:				Date:				
Asset num	Asset Description	Task	Location	Chainage	Done	Condition (circle)*	Comments**	
AQS101	CO/NO/Visibility Sensor (ACO101; ANO101; VIS101)	Check local display readings and compare feedback with PMCS (CO Only)	Northbound Tunnel	1530		1 2 3 4		
AQS102	CO/NO/Visibility Sensor (ACO102; ANO102; VIS102)		Northbound Tunnel	2472			1 2 3 4	
AQS103	CO/NO/Visibility Sensor (ACO103; ANO103; VIS103)		Northbound Tunnel	2922			1 2 3 4	
AQS104	CO/NO/Visibility Sensor (ACO104; ANO104; VIS104)		Northbound Tunnel	3732			1 2 3 4	
AQS105	CO/NO/Visibility Sensor (ACO105; ANO105; VIS105)		Northbound Tunnel	4840			1 2 3 4	
AQS106	CO/NO/Visibility Sensor (ACO106; ANO106; VIS106)		Northbound Tunnel	5939			1 2 3 4	
AQS107	CO/NO/Visibility Sensor (ACO107; ANO107; VIS107)		Northbound Tunnel	6102			1 2 3 4	
AQS401	CO/NO/Visibility Sensor (ACO401; ANO401; VIS401)		Shafston Ave On Ramp	192			1 2 3 4	
AQS402	CO/NO/Visibility Sensor (ACO402; ANO402; VIS402)		Shafston Ave On Ramp	572			1 2 3 4	
AQS501	CO/NO/Visibility Sensor (ACO501; ANO501; VIS501)		Southbound Tunnel	1328			1 2 3 4	
AQS502	CO/NO/Visibility Sensor (ACO502; ANO502; VIS502)		Southbound Tunnel	1684			1 2 3 4	
AQS503	CO/NO/Visibility Sensor (ACO503; ANO503; VIS503)		Southbound Tunnel	2358			1 2 3 4	
AQS504	CO/NO/Visibility Sensor (ACO504; ANO504; VIS504)		Southbound Tunnel	3013			1 2 3 4	
AQS505	CO/NO/Visibility Sensor (ACO505; ANO505; VIS505)		Southbound Tunnel	3433			1 2 3 4	
AQS506	CO/NO/Visibility Sensor (ACO506; ANO506; VIS506)		Southbound Tunnel	4408			1 2 3 4	
AQS507	CO/NO/Visibility Sensor (ACO507; ANO507; VIS507)		Southbound Tunnel	5958			1 2 3 4	
AQS801	CO/NO/Visibility Sensor (ACO801; ANO801; VIS801)		Shafston Ave Off Ramp	225			1 2 3 4	
AQS802	CO/NO/Visibility Sensor (ACO802; ANO802; VIS802)		Shafston Ave Off Ramp	150			1 2 3 4	
Print Name:				Signed:				
* Condition Ratings: 1 Equipment OK; 2 Minor defect not affecting operation; 3 Minor defect affecting operation or safety; 4 Major defect requiring immediate intervention								
** In the case of a faulty asset or component or non functioning asset or component please write detailed description, reason, symptoms and possible remedy of fault Asset number must be clearly stated.								

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Lessons From the Journey

- How far ahead of opening should AMS be operating?
- O&M involvement in D&C?
- In-house or hosted solution?
- Coursework or on-the-job learning?
- Report development?

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Questions?



Clare Scanlon, Asset Engineer, BMS

Andrew Wheatley, Operations and Maintenance Manager, BMS

Graeme Sharp, Principal, Sharp Business Solutions

Glen MacElroy, Principal, SAI Solutions

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