it's a matter of perspective Jane Bateson Melbourne Water

It's a matter of perspective



"The real voyage of discovery is not seeing new landscapes, it's having new eyes." (unknown) Melbourne Water's operating environment and strategic direction has changed.

A new delivery strategy based on a framework agreement, fit for purpose governance, capability building of our project managers and a focus on improving efficiency without compromising quality has been implemented

Implementing the new delivery strategy will be a significant challenge for Melbourne Water.

If we do not makes the changes we face increasing risks and severe financial stress.

Hypothesis – adoption of LEAN principals and tools can:

•Help us retain collaboration, innovation, value

Assist Melbourne Water Capital meet challenging targets without compromising agreed levels of service and delivering outcomes.
Embed the required changes.

Now to some case studies showing how......

Melbourne Water: We deliver services through projects



MV MAP REFERENCE : 20070325 SIZE : A3 DATE : 06/08/2008

Manage \$8.9 billion in assets.

Manage Melbourne's water supply catchments

Treat and supply drinking water

Remove and treat ~91% Melbourne's sewage

Manage rivers and creeks and major drainage systems

Size of Capital Program \$2.5 Billion over 5 yrs

Our Operating Environment has changed significantly in the last 12 months - since LIPS 2012.



Our Strategic Direction



Capex targets shape the services we deliver in the future and impact on our biggest financial challenge - **debt**



Implications for capital: new era however, we have not gone back to the beginning



A little bit of history: Ever changing contracting model, each model is a new way of doing business



We have the ability to adapt to a changing environment This has worked best when done pre-emptively •WP3 Focus - Efficiency of delivery

• Projects to be managed "in-house",

•More traditional risk allocation, clear and definitive risk allocation between MW and service providers,

•Individual fit for purpose delivery strategies for major/stand alone projects > \$50m

•Bundling projects – 2 bundles (Treatment and transfer) competitively priced b/w 3 service providers, Framework Agreement

•Delivery via "Design" then "Construct" OR "Design & Construct" methodologies,

•Waterways and storage – utilize consultancy services panel for design and open market for construction Underpinned by Framework Agreement principles,

•Delivering smaller projects through maintenance and low risk contracts

•Contract is silent on collaboration and relationships

•Safety is a core Value,

•Continue to support MW ownership of stakeholder management and approvals.

- Ensure increase value of services
- Build and maintain a constructive and collaborative culture with our new Service Providers while delivering our projects on time/budget/quality.
- Achieve efficiency targets without compromising levels of services and agreed outcomes.
- Effectively embed the change.

CHANGE AND LEAN – philosophy and tools

All transition is painful

Three stages of transition – saying goodbye, being in the neutral zone, taking the first steps



An Example Of Organisational change

Our projects are becoming more complex and our role in them is changing.

Our people have the skills and support they need to manage projects our business is being asked to deliver and improve the likelihood of high quality outcomes. Project complexity in increasing

- Stakeholder numbers
- 'Power of stakeholders
- Risk
- No. disciplines





The Desired Outcome





Performance-based approach to competency

Project complexity assessments

High Moderate (2) (3)

> High (3)

Project Managemen Complexity Factor

> Better matching of •Governance and process; and •competency

> > to projects

Release 1: Melbourne Water way of managing projects

- Project Decision Guidance Tool
- Increased Accountability and a Governance Framework
- Project Management Lifecycle Model
- Project Support Function

Project Decision Guidance Tool



The Decision Tool is designed to practical guidance and increased understanding of your project

The purpose of Project Characterisation is:

- 1. To provide insight on project difficulty and risk
- 2. To inform the recommended level of governance rigour required

Project Characteristics



Project Governance

The Governance framework provides a fit-for-purpose response to aid decision-making on what appropriate management and support settings will help assure delivery

Governaı Capability	nce Level Maturity	Description
1	Light	Light Governance only
2	Advised	Medium Governance with tailored Advisory Support
3	Supported	Full Governance with tailored Dedicated Support

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Light	Advised	Supported										
-	Advised	Supported										
-	Advised	Supported										
-	Advised	Supported										
-	Advised	Supported										
-	Advised	Supported										
	Light - - - - -	LightAdvised-Advised-Advised-Advised-Advised-Advised-Advised-Advised										

MW Governance Framework Table

An Example Of LEAN Construction

A Simple Project Delivery Process



LEAN Construction Tools

Pull Planning

TQM SPC Six-Sigma 5S's Target Value Design Value Chain Mapping Choosing By Advantage BIM Integrated Lean Project Delivery

Last Planner System

Visual Site Visual Control 5 Whys Toyota Production System Gemba Kaizen Kanban Poka Yoke Heijunka

Q01769 ETP - ODOUR REDUCTION TEAM

Salvatore Valvo Damien Hale Wayne Slater Paul Farrell Christina Griffin Kasun Rajapaksha **Glen Love ColourTec** Exel CorrosionTec Gisbon

WRA Odour Reduction Project



The Pursuit Of Innovation



Innovation With Risk



- Unproven Technologies
- Fledgling Subcontractor
- Operational Constraints
- Manufacturing Limitations
- Unknown Benchmarks



Threat Realization



Realization – Time & Motion Study

Colourtec Shutdown Check List	No. of times	Delay	No. of crew	Man-minutes
Washing	per day	Duration	held up	inefficientcy
Furnhy trailer socket facing south (to avoid flooding walkway)	0.3	10	3	9
Furphy and boster nump field up	0.5	5	3	75
Fuel container full and in the back of ute	0.5	6	3	9.0 9
2nd Nozzle in the back of ute	0.3	3	3	27
Main fuel storage above 10% full	0.03	20	9	5.4
Grit Blasting				
Compressor and Generator fuelled up	0.8	5	4	16
Fuel container full and in the back of ute	0.5	4	4	8
3 full grit bags to be stored next to Pot during blasting	0.75	4	4	12
Additional Grit bags in the back of ute	1	4	4	16
Grit storage in shed has more than 8 bags	0.05	30	6	9
Saw Cutting				
Mini Generators fuelled up	0.8	3	3	7.2
2 spare cutting blades in the back of ute	0.25	2	3	1.5
2 spare electric saws waiting near bay (Hook can blow out dust of faulty saw after change out)	1.2	5	3	18
Inspection and Blowing				
Spare Lanyard attached to Scaffold prior to inspection	0.3	10	3	9
Compressor fuelled up	0.5	4	3	6
Primer				
2 spare large and 1 small rollers stored near walk way	1	4	3	12
If primer supply buckets are near empty, store more supply in ute from shed	0.2	5	6	6
Leave Empty additional bucket waiting next to primer supply				
When 5 mins of primer left, call for more primer to be delivered in empty bucket	1	5	3	15
More than 1 day supply of primer stored in shed	0.03	30	9	8.1
Poly				
On Day Prior to shut - ensure poly supply for 6 bays (1.5 drums of both ingredients)	0.025	60	9	13.5
Where possible, warm up machine and Op prep while finishing previous activity	0.3	5	3	4.5
Have metal tool in barge to de-clog gun	0.1	1	3	0.3
Have acetone container, more tha 10% full, near poly truck for smoothing poly	0.2	4	3	2.4
	DAILY W	ASTAGE	(mins)	198

Improve

Monitor

Realize

Stabilize

Stabilization – Standard Work Plans

Coating Bottoms Washing Blasting Saw Cutting	Bay 4 Commencement	Washing Blasting Saw Cutting I&B	Start Time 9:20:00 11:23:00 12:43:00 13:48:00	Finish Time 9:48:00 12:08:00 13:48:00 13:54:00	Barge 1 2 3	1		1 1	, ,	Primer Curing Poly	Start Time F 15:33:00 16:18:00 12:52:00	inish Time 16:18:00 19:18:00 14:20:00	Barge 2 1	Day 2
Inspection & Blower Primer Curing Poly Start	6 min 45 min 180 min 88 min 7:00:00	Washing Blasting Saw Cutting I&B	8:52:00 10:38:00 11:54:00 12:43:00	9:20:00 11:23:00 12:43:00 12:49:00	1 2 3, 2 2		:	2		Primer Curing Poly	14:48:00 15:33:00 11:24:00	15:33:00 18:33:00 12:52:00	2 1	Day 2
Notes DAY 1 Barge 3 complete Barge 2 complete	1:54 PM 4:18 PM	Washing Blasting ineff Blasting Saw Cutting	8:24:00 9:43:00 9:53:00 10:49:00	8:52:00 9:53:00 10:38:00 11:54:00 12:24:00	1 2 3		3	3	5	Primer Curing Poly	12:49:00 13:34:00 9:56:00	13:34:00 16:34:00 11:24:00	2 1	Day 2
40mins contingency a	at end of day	Lunch - ALL	13:48:00	12:24:00	2				spe		13:48:00	14:48:00		Lunch - ALL
b3 can help b2 in arv Day 2 Barge 1 complete 1 crew only - day 2	0 2:20 PM	Washing Blasting Saw C ineff Saw Cutting I&B	7:56:00 8:58:00 10:06:00 10:16:00 11:01:00	8:24:00 9:43:00 10:16:00 10:49:00 11:07:00	1 2 3,1 3,1		Wast, 8	4	dt & Blow, Phin	Primer Curing Poly	12:37:00 13:22:00 8:28:00	13:22:00 16:22:00 9:56:00	1	Day 2
		Washing Blasting Saw Cutting I&B	7:28:00 8:13:00 9:18:00 10:55:00	7:56:00 8:58:00 10:06:00 11:01:00	1 2 3,1 1		yit, saw cut	5	ner & Poly	Primer Curing Poly	11:52:00 12:37:00 7:00:00	12:37:00 15:37:00 8:28:00	1	Day 2
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Improve

Monitor

Realize

Stabilize

Improvement – Production Gains



Improvement – Pull Planning







Monitor & Deliver – Last Planner

						WEEK PAST		Weekh			V	WEEK 1					V	VEE	2	2				
					25-Mar-13	26-Mar-13	27-Mar-13	28-Mar-13	29-Mar-13	30-Mar-13 31-Mar-13	Achi Ar	Achievement Analysis		2-Apr-13	3-Apr-13 4-Apr-13	5-Apr-13	6-Apr-13	7-Apr-13	8-Apr-13	9-Apr-13	10-Apr-13 11-Apr-13	12-Apr-13	13-Apr-13	14-Apr-13
Original duration	Early Start	Early Finish	pred	Owner	Mon	Tue	Wed	Thu	Fri	Sat Sun	Achieved (Y/N)	Reason	Mon	Tue	Wed	Fri	Sat	Sun	Mon	Tue	Wed	Fri	Sat	Sun
EBF & Other Areas																						Con	struc	tion
3	8-Apr-13	8-Apr-13		Wayne																				
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1	13-Apr-13	13-Apr-13		Paul																				
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3	4-Mar-13	26-Mar-13		Christina							Y					_	_							
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Realize Stabilize

Improve

Monitor

Deliver

Last Planner – Monitor & Deliver



LEAN Construction – Delivered Results



LEAN Construction Tools Used



LEAN Construction - Potential



It's a matter of perspective



"The real voyage of discovery is not seeing new landscapes, it's having new eyes." (unknown)