Integrated Water Cycle Management Strategy

LGNSW Water Management Conference 2019 @ Albury

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Integrated Water Cycle Management (IWCM) Strategy

- Local Government planning context
- IWCM – why plan
- What assistance is available from NSW Government
- IWCM purpose & outcomes
- Key drivers
- IWCM issues paper development framework
- IWCM strategy development framework
- IWCM – community & stakeholder input
- IWCM – what’s the connection with...
  - safe and secure water program (SSWP)
  - licensing & approvals
  - water trading
  - drought contingency/emergency works
  - s60 approval
  - levels of service (LoS), risk, cost & affordability
  - DPIE performance monitoring & reporting
- Q & A
Local Government Planning Context & IWCM Strategy

Note 1 – IWCM Strategy mid-term review documents the review outcomes. Currently this document is referred to as Strategic Business Plan.
IWCM Strategy – Why Plan?

- Customers expect continuous access 24/7
- Customers do not want price ‘shocks’
- Customers have a high expectation that the water & sewer services is safe, secure & reliable
- Expectation for fair pricing of service & full cost recovery
- 30 – year plan, as these are long life assets
- Liability over a longer period
- Not all risks can be eliminated with design
Financial grant under SSWP Stream 2

Our expectations when LWUs receives financial assistance under SSWP Stream 2:

- Register Expression of Interest (EoI)
- Obtain concurrence to Scope of Works
- Seek technical assessment of tender proposal prior to engagement
- Obtain concurrence to IWCM Issues Paper
- Obtain concurrence to IWCM Strategy

Our expectations your IWCM strategy will based on sound analysis & evidence deliver:

- A prioritised & implementable ‘blue print’ for your water service business
- Tools that you can use in your annual business planning processes & future IWCM updates
The IWCM Strategy is a Local Water Utility’s “resourcing strategy” and much more…

- Sets the Levels of Service (LoS) framework linking objectives, service standards and performance indicators for the Water & Sewer business
- Identifies the issues and needs with respect to water security, water quality improvement, sewage management & distribution/collection system works
- Identifies the ‘Right ‘ water supply and sewerage scheme options and ‘Right sizes’ the associated infrastructure components and non-build measures
- Determines LWU’s implementation priority
- Identifies the ‘best value 30-year’ IWCM scenario on a triple bottom-line (TBL) basis for providing appropriate, affordable, cost-effective & sustainable urban water services that meet community needs & protects public health & the environment

Outcomes:
- LoS Framework
- 30-year Total Asset Management Plan
- 30-year Financial Plan
- 5-year Outlook Drought Contingency & Emergency Response Plan

- Develop/Update Development Servicing Plan
- Update water services pricing tariffs
- Develop/Update DWMS, RWMS, PIRMP, AMS&AV, CRMS and DataMS
- Develop/Update Emergency Response Plan
Levels of Service (LoS) Framework
- linking objectives, service standards and performance indicators for water security, water quality, sewage management and water service business

30-year Total Asset Management Plan
- New capex for growth and to meet service objectives
- Renewals to meet service objectives
- Non-build solutions (efficiency measures…)
- Resourcing requirements (staffing levels, skills and training needs, etc)

30-year Financial Plan - supports the asset management plan
- Determines the total revenue requirements and first cut developer charges
- Identifies borrowings, if any
- Enables Council to set the tariff structure & Developer charges

5-year Drought Contingency & Emergency Response Plan – supports continuity of service
- Identifies the critical assets
- Identifies the hazards & the impact of hazards on service continuity
- Risk based contingency measures to maintain service continuity
IWCM Strategy – key Drivers

Lower LOS & Low Growth

Higher LOS & Low Growth

Lower LOS & High Growth

Higher LOS & High Growth
IWCM Issues Paper – Development Framework

- Regulatory Requirements
- Past Performance
- Community Expectations
- Typical Residential Bill

Water Supply Systems
- LWU Serviced Urban Areas
- LWU Un-serviced Urban Areas
- LWU Management Systems

Sewerage Systems

Urban Stormwater Systems

Current customers & end users

Water cycle use analysis & influences

Accounting for climate, price & other factors influencing water cycle

Future population & development

Service area current & future

• Water security performance & needs assessment
• Water source risk review and barrier performance & needs assessment
• Water supply system performance & needs assessment
• Sewerage system performance & needs assessment
• Impact review of stormwater on water & sewer system
• Performance review of on-site systems in LWU un-serviced areas
• LWU Management Systems & plans effectiveness review

Levels of Service Framework

Description of Existing Urban Water Services

30-year Water Cycle Needs Projection

Capacity & Performance Assessment of Existing Urban Water Services & Management Systems Review

Stakeholder & Community Review

IWCW Issues Paper

Metrology information

Catchment characteristics

System characteristics

Service area current & future

Current customers & end users

Water cycle use analysis & influences

Accounting for climate, price & other factors influencing water cycle

Future population & development

Service area current & future
### IWCM Strategy – Development Framework

#### IWCM Strategy Development & Assessment

<table>
<thead>
<tr>
<th>IWCM Strategy</th>
<th>Outputs</th>
<th>Outcomes</th>
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<tbody>
<tr>
<td><strong>IWCM Strategy</strong></td>
<td><strong>Is TRB Affordable?</strong></td>
<td><strong>Final IWCM Strategy</strong>, <strong>Adopted Scenario and Financial Plan</strong></td>
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<td>30-year IWCM Strategy with fit for purpose non-build &amp; build measures to address the urban water system issues. Includes:</td>
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<tr>
<td>- Description of water systems for each urban centre</td>
<td><strong>Yes</strong></td>
<td>- Best-value IWCM scenario identified (social, environmental &amp; economic - TBL basis)</td>
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<tr>
<td>- Summary of projections for each urban centre</td>
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<tr>
<td>- Summary of issues &amp; new TAMP based on review of existing TAMP</td>
<td><strong>No</strong></td>
<td>- Sustainable water supply &amp; sewerage implemented.</td>
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<tr>
<td>- Analysis &amp; documentation of merits of all non-build &amp; build options</td>
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<td>- Evaluation of all shortlisted feasible options</td>
<td></td>
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<td></td>
<td></td>
<td>- Fair pricing of services, appropriate water, sewerage &amp; trade waste tariffs, full cost recovery, strong pricing signals to encourage efficient use of services.</td>
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<tr>
<td></td>
<td></td>
<td>- Sound regulation of sewerage &amp; trade waste.</td>
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<td>- Exposure to drought &amp; climate variability mitigated.</td>
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<td>- Efficient water cycle management &amp; use.</td>
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<td>- Drinking water quality is fit for purpose.</td>
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<td>- Emerging issues addressed &amp; corrective actions implemented following annual TBL Performance review.</td>
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**Calculate approximate typical residential bill (TRB) for each IWCM Scenario by taking into account the requirements of the Customer Service, TAM & Work Force Plans.**

**Review and Amend LOS of Best-Value IWCM Scenario until Affordable**

**IWCM Issues Paper**

- Covers urban water system issues relating to:
  - Regulatory & Contractual compliance
  - Levels of Service (LOS)
  - Capacity to meet current & future demands and loads
  - System Performance & Utilisation
  - Appropriateness & Effectiveness Review of Existing TAMP to Address All Issues
IWCM: Community & stakeholder input

• The Checklist allows the LWUs to tailor the community & stakeholder input to meet your Council’s & communities expectations based on issues and resourcing needs.

Refer to IWCM Information Sheet 1
lgnsw.org.au/amalgamation-toolkit/resources
SSWP

- Enables a LWU to identify new risks or issues for consideration of co-funding eligibility under SSWP Stream 1 (i.e. input to the risk prioritisation framework)
- Identifies the best-value solution and the associated life cycle cost to resolve the risks or issues

Level of co-funding available under SSWP for preparing IWCM Strategy

<table>
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<tr>
<th>Annual Revenue of Proponent (from water and sewerage)</th>
<th>Safe and Secure Water Program Funding Band</th>
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<tbody>
<tr>
<td>&gt; $20m</td>
<td>Up to 25% *</td>
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<tr>
<td>$10m to $20m</td>
<td>Up to 50% *</td>
</tr>
<tr>
<td>$5m to $10m</td>
<td>Up to 60% *</td>
</tr>
<tr>
<td>$2.5m to $5m</td>
<td>Up to 75% *</td>
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<tr>
<td>&lt; $2.5m</td>
<td>Up to 90% *</td>
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* Percentage of the estimated total cost of funding required to resolve the risk

IWCM: What’s the connection with...
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**Licensing & work approvals under WM Act:**
- Builds the case for an increase/decrease in water entitlement to meet domestic & associated commercial activity needs in a new &/or existing water source
- Builds the case for any extraction and works approval conditions such as e-flow
- Determines the need for any other approvals
- Establishes solution paths for licence/approval issues

**Water trading from LWU-SPAL:**
- Need an approved IWCM
- Demonstrates the availability of risk management strategies
IWCM: What’s the connection with...

**Drought contingency & emergency works:**

- Builds the case and considers how the drought contingency & emergency infrastructure and non-infrastructure works ‘fits-in’ with the long term strategy.

**IWCM Strategy:**

- It's a planned long-term supply-demand measure needed to manage the forward-looking growth and climate variability projections.
- The 5/10/10 design rule is generally used within the planning framework to size the headworks to ensure water security that meets community expectations with moderate restrictions.

**Drought Contingency & Emergency Response Plan:**

- It's a response plan to ensure the water supply system does not run out of water.
- Sets out *tactical measures* to respond to water shortages and/or incidents, if they arise in the immediate to short-term (for example, if inflows are worse than expected, water quality event, asset failure, etc).
A sound IWCM addresses the:
✓ first two steps of the approval process for the construction or modification of a treatment works (Initial consultation & options report)

Additionally it also:
✓ 'right' sizes the scheme assets & measures
✓ Identifies the best value scheme option
✓ Confirms financial sustainability & affordability
✓ Streamline the approval process

S60 approval process steps for treatment works:
✓ Step 1 – Initial consultation
✓ Step 2 – Options report
✓ Step 3 – Concept design & environmental assessment
✓ Step 4 – Specification (D&C)
✓ Step 5 – Tender (D&C)
✓ Step 6 – Detailed design
✓ Step 7 - Approval

IWCM: What’s the connection with...

levels of service (LoS), risk, cost & affordability

Source: long-term financial planning; Practice Note No. 6, IPWEA
IWCM: What’s the connection with...

DPIE Water performance monitoring & reporting:

- Builds the case for an Council wide integrated planning & performance data capture and management system
- Identifies the strategic and operational data linked to the LoS framework to facilitate on-going improvement
- Builds the case for required LWU resources to meet LoS targets
- Streamline on-going preparation of IWCM Strategy