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STRATEGIC ASSET MANAGEMENT

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RE-THINKING, RE-BRANDING, ASSET MANAGEMENT

In this issue two different (but compatible) approaches with a common theme: If we are to meet the future needs of sustainability and climate change we need to change asset management - we need to re-think; maybe re-brand, and re-cast Asset Management as more than an engineering sub-discipline.

Warren Adams, MWH Global, Brisbane

2. Do we need a re-branding of Asset Management? *Keywords: sustainability,*

3. Potential Scenarios: the future of Asset Management. *Keywords: sustainability,*

4-5. The Way Forward: a proposal. *Keywords: triple bottom line, quadruple bottom line, sustainability, climate change, regulation*

Rob Blakemore, Opus International, New Zealand

6 **Integration: A different way of thinking.** *Keywords: sustainability; water*

7. Sustainability Principles - and the advantages of adopting them. *Keywords: Strategy.*

8. Common Levels of Service - as basis for comparison. *Keywords: Service, Integration*

9. Integration takes account of diversity of needs. *Keywords: Consultation, Socio-Economic Groups, Weighting.*

10. Prioritisation of Projects and Affordability. *Keywords: integration*

11. Establishing Priorities. *Keywords. integration,*

12.**Development of Expenditure Programmes.** *Keywords: budgets, water, funding, priorities,*

No space for Benchmarking for Beginners this issue.
Watch for its return in the next issue.
Enjoy!
Penny

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Warren Adams, MWH Global, Brisbane, asks

WITH A FOCUS ON SUSTAINABILITY & CLIMATE CHANGE: DO WE NEED A RE-BRANDING OF ASSET MANAGEMENT?

Impacts on Demand for Asset Management

Climate change and sustainability each have significant potential impacts – generally positive – on the need and demand for asset management. Many of these positive impacts relate to the increased awareness of the vulnerability of infrastructure assets to adverse climate change impacts, and recognition of the consequent costs and service disruptions if these impacts are not mitigated.

The climate change and sustainability debate has also, however, generally helped achieve increased public and stakeholder awareness of the concept of whole-of-life. This should have spin-off benefits to the asset management fraternity, which has struggled to sell this message in the past (notwithstanding some of the successes of recent years).

Changes to "How We Do" Asset Management

There are numerous changes already occurring to the tools and techniques of asset management and these will continue as climate change and sustainability take greater hold. For example, increased energy costs, and the introduction of a carbon tax, will put much greater importance on consideration of the operations phase during infrastructure design, and increase the importance of accurate life cycle costing. They will also increase the importance of operational optimisation, such as the optimisation of pumping schedules to capitalise on favourable energy tariffs.

Changes to Asset Management's Identity

The third category of impacts is more fundamental and relates to asset management's role, identity and "branding".

As discussed earlier, there are many similarities between sustainability and asset management, both in the tools and techniques used, and in some of the underlying concepts and objectives. These similarities are leading to a noticeable convergence of the two fields. While this is not in itself a bad thing – and indeed brings potential benefits in terms of increasing awareness of, and demand for, asset management services – it also poses some risks to the way that asset management is perceived.

Put simply, the asset management profession has the opportunity to grow in stature and business relevance by embracing and leveraging sustainability principles and the opportunities presented by climate change. Alternatively, it can continue its engineering-oriented focus and potentially squander this opportunity.

POTENTIAL SCENARIOS

The combination of the convergence of asset management and sustainability principles, and the forces of change presented by the latter, gives rise to three broad scenarios for the future of asset management. These are:

1. Asset management successfully leverages the opportunities provided by climate change and sustainability;
2. The status quo is largely maintained, with the asset management and sustainability fields coexisting;
3. Asset management becomes an engineering-oriented sub-set of the sustainability field.

Scenario 1 – Best Case

Under this scenario the asset management field would seize upon the opportunities provided by climate change and sustainability, broadening its relevance and embedding sustainability concepts into its methodologies and tools. In doing so it would grow in stature, shaking off its perceived engineering and asset-centric focus and positioning itself firmly as a strategic business discipline. This might include the re-badging or re-branding of asset management to reflect the broader focus – as "Sustainable Infrastructure Management" for instance.

Scenario 2 – Status Quo

Under this scenario, asset management and sustainability would continue to coexist as related disciplines with some areas of overlap remaining. There would be an increased level of interaction but, importantly, asset management would not achieve the same stature as it would in Scenario 1.

Scenario 3 – Worst Case

Under this scenario, asset management would fail to gain the initiative, effectively being "absorbed" into the broader sustainability field and relegated to becoming an engineering-oriented specialisation. Such an outcome is not implausible, as it could be argued that the development of the asset management field of practice to date has been slow and not entirely successful. Certainly, significant progress has been made on many fronts, including the development of professional associations such as NAMS in Australia and New Zealand; the WSAA's previously-mentioned benchmarking program; and the publication internationally of several seminal manuals and guidebooks.

As a discipline, however, asset management's profile and mainstream recognition are relatively low. It continues to suffer from definitional issues (for example having different meanings even across different infrastructure sectors), and its take-up and focus varies widely in different parts of the world. Accordingly, this scenario would be a significant set-back to the recognition of asset management as a credible and legitimate profession.

Fortunately, there are several practical and achievable steps that the asset management profession can take to maximise the likelihood of achieving Scenario 1, and avoiding Scenario 3.

THE WAY FORWARD

These include:

Incorporation of Multiple Bottom Line principles;
Leveraging current updates to key best practice instruments;
Incorporating sustainable asset management principles into regulatory frameworks.

Incorporation of Multiple Bottom Line Principles

Perhaps the most obvious change that needs to be made to current asset management practice is the more comprehensive adoption of Multiple Bottom Line principles, such as overlaying the Triple Bottom Line (TBL) decision framework onto the existing asset management model, such that all life cycle costs are measured not only in financial terms, but with respect to environment and social impacts as well.

This would appear a relatively straightforward thing, but brings with it the need for tools, methodologies and associated training and education. Given the difficulty experienced embedding "traditional" asset management concepts to date, it will be important that any move in this regard not be overly complex, lest it further impede progress in promoting the field. This suggests the need for a standardised and relatively simple TBL framework and tools to be developed.

Another way in which Multiple Bottom Line principles could be incorporated is through formal articulation of environmental and (where not already) cultural and social goals and outcomes as part of Levels of Service.

Leveraging Updates to Best Practice Instruments

Best Practice instruments such as WSAA's asset management benchmarking framework, and the Institute of Public Works Engineering's (IPWEA) International Infrastructure Management Manual (IIMM) are key to the dissemination of asset management knowledge and practice in Australia. Fortuitously, both are currently undergoing processes of review and update, representing very timely opportunities for inclusion of sustainability principles. Conversely, sustainability and "green" rating schemes under development or already in existence, such as the Australian Green Infrastructure Council's (AGIC) infrastructure sustainability rating scheme and the Green Building Council's Green Star scheme, provide further opportunities for collaboration to incorporate asset management principles into these frameworks.

Incorporating Sustainability and Asset Management into Regulation

Regulation of the water sector is undergoing reform throughout Australia. The Queensland government is currently reviewing the regulation of planning processes of its water authorities, in addition to introducing economic and asset management regulation to the South East Queensland water entities. South Australia is also introducing economic regulation of its water sector. Other reforms are occurring in NSW, Victoria and Tasmania. In the relatively infrequent situations where asset management is regulated by state governments, the predominant focus is usually on financial sustainability. A rare opportunity therefore exists to incorporate sustainable asset management (incorporating Multiple Bottom Line principles) into regulatory frameworks as part of current reform processes.

CONCLUSION

The phenomena of climate change and sustainability are here to stay, and despite some recent set-backs to momentum as a result of Commonwealth Government policy shifts, will only grow in importance as drivers of change in the asset management field. The disciplines of asset management and sustainability share a number of similarities and appear to be converging.

This convergence, in combination with the forces of change that climate change and sustainability represent, has significant potential upside for the practice of asset management, as well as some risks.
The upsides to asset management are achievable, whilst minimising risks, through the adoption of a proactive approach by the asset management fraternity to the adoption and embedding of sustainability principles into asset management best practice.

Excerpt from “Sustainability and Climate Change: Challenging the way we approach asset management” paper presented at the AWA’s Sustainable Infrastructure and Asset Management National Conference, held 23-24 November in Sydney

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Continuing the theme of change, Rob Blakemore, Opus International, NZ, argues that

SUSTAINABILITY REQUIRES A DIFFERENT WAY OF THINKING ABOUT ASSET MANAGEMENT - where the key word is "integration".

and he illustrates his thesis with the issues facing Selwyn District Council in New Zealand. Here the problems are the integration of different water projects but the same arguments could be applied to any group of different projects within council or within any organisation. In the end, it is always about prioritisation.

THE CONTEXT

Selwyn District – although small in population has a large geographic area with very different communities. Previous funding and expenditure has historically been allocated to each of the 80 "5Waters" schemes and priorities have been determined individually for each scheme. Although this approach does maximise local community input, it does not encourage efficiency– or integrated thinking. Local interests have less concern about long term sustainability especially over matters that are of little or no direct concern to them.

Within Selwyn there was recognition that sustainable development for the District was not going to occur if it continued with previous practice– the preparation of 5 separate activity management plans for the 5 activities of water supply, wastewater, stormwater, stock water races and land drainage. Each activity interrupts the water cycle and impacts the water resources. Furthermore there are often projects undertaken by the Council that provide benefits to more than one of the 5 previously separate activities. Although there was no immediate intent to change the source and type of funding through the multitude of independently rated schemes, SDC realised that integrated thinking was required to justify expenditure and to prioritise improvement works. This approach led to the acceptance of the concept that there was only to be one plan produced – the 5Waters Plan.

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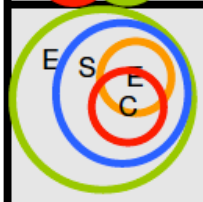
The first stage to an integrated plan was to determine sustainability principles to be adopted by Council for purposes of asset planning.

SUSTAINABILITY PRINCIPLES – AND THE ADVANTAGES OF ADOPTING THEM

After considerable review of literature and internal discussion the Council adopted the following principles. Each principle is represented symbolically so that the Council can be reminded of the relevance of any proposal it is considers to the principles in a simple and graphical way. This approach has meant that any subsequent report to Council –whether involving policy or expenditure can be directly linked to sustainability principles.

Principle 1: Make decisions based on the four aspects of well-being

Integrate environmental, economic, social and cultural considerations within Council decision making. Consider both the short-term and long-term effects of the decision.



Principle 2: Observe the Precautionary Principle to provide contingency and enable adaptability of our community

Err on the side of caution in the face of scientific uncertainty and a risk of serious or irreversible environmental damage.

Principle 3: Seek "intra-generational" and "inter-generational" equity

Improve quality of life and create opportunity for all of the current generation, without compromising the quality of life and opportunity of future generations.

Principle 4: Internalise environmental and social costs

Develop and adopt a system that recognises the true costs and benefits of protecting and restoring environmental/ecological, human, social and cultural resources affected as a result of the services that Council provides.

Principle 5: Foster community welfare

Support and encourage the region to prosper socially and culturally. Our assets are not just our built assets but our people, their skills and the connections between them.

Principle 6: Act to halt the decline of our indigenous biodiversity and maintain and restore remaining ecosystems

Conserve, and sustainably use and manage, the district's biodiversity, recognising the various services that ecosystems provide to humans as well as the environment's intrinsic value.

Principle 7: Consider, and promote the sustainability of our neighbouring communities and work with governing bodies for sustainable outcomes

Recognise that we are part of a whole globe system whether we can physically see the impacts of our actions or not.

Levels of Service have been redefined to reflect the adopted Sustainability Principles and have been worded in a generic way that ensures applicability across the five water services.

COMMON LEVELS OF SERVICE

The underlying premise of this AMP is that all proposed works can be linked to and assessed against the Levels of Service such that improvements can be prioritised not only within a service, but across the 5-Waters Activity. Prioritisation can never be determined unless there are common criteria against which there can be evaluation. Perhaps this process is best described through metaphor.

"You can't compare apples with oranges"

No, but if you think of them all as fruit - and then specify the qualities of fruit you are looking for, you can then determine whether you want an apple or an orange by evaluating each type of fruit against their common qualities.

Similarly for the 5 waters, it was decided that through the adoption of common levels of service that define the quality of the service you want in any of the 5 waters, priorities for projects of service you have already defined for your community can be established through evaluation of the contribution of the project to one or more of the levels of service.The final levels of service that were adopted were:

The Nine Levels of Service

1 The community is provided with water services to a standard that protects their health and property

2 Customers are provided and fairly charged for water services that meet their reasonable needs

3 Nuisance effects of water services are minimised

4 Water services are provided in a cost effective manner

5 Problems with water services are addressed in a timely manner and prioritised according to risk and need

6 Service capacity is provided to accommodate growing communities where this growth is sustainable

7 Adverse effects of water services on cultural and heritage

8 Adverse effects of water services in the environment are minimised

9 Greenhouse gas emissions from the provision of water services are minimised

Integration doesn't mean ignoring differences, it means treating them all on a consistent basis. Here is how it was done

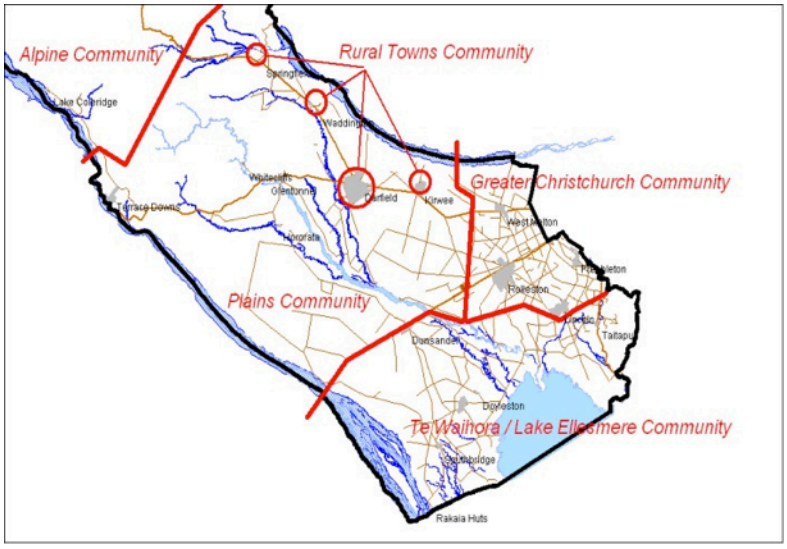
EFFECTIVE INTEGRATION TAKES ACCOUNT OF DIVERSITY OF NEED

Consultation

To ensure that management of the 5-Waters Activity reflects this diversity, five Communities of Interest have been identified. Consultation with these communities has allowed weighting of the levels of service to reflect local aspirations and priorities.

Socio-Economic Groups

Communities of interest were defined to represent 5 distinct socio economic parts of the district in which it was believed that the people in the community may have different needs from the water utilities that serve them.



Relative Weightings

Using focus groups followed by local meetings and telephone surveys, we were able to attach weightings to these levels of service to reflect the relative importance the community placed on the nine different LOS. Importantly these were weightings to apply to each of the 5 Waters. It was therefore important for the community to understand the implications of losing the levels of service in each or all of the 5 Waters. The public consultation methodology of the work to establish these weightings was carefully thought through in advance of completion of the consultation. Ultimately the finally derived weightings were to be used to influence the priorities attached to improvement projects requiring capital or operational expenditure that would benefit their community.

Improved Public Involvement

An important benefit of this process is the early phase of public involvement that then reduces the potential negative impact from the community when faced with specific expenditure choices for project options. Justification of projects to a community becomes easier if they can be explained as contributing to specific levels of service that have been given weightings that reflect their views of importance.

The ultimate aim of the game is to achieve fair

PRIORITISATION OF PROJECTS AND AFFORDABILITY

One important final product of integrated asset management plans are expenditure programmes for the next 10-20 years. But the final outcomes of these programmes must be sustainable for successive generations and we wanted to ensure they were connected to the sustainability principles. The principles were directly linked to the Levels of Service.

Expenditure programmes have been developed for each community of interest (COI) that makes allowance for the relative importance of each level of service to each community.

The term 'project' is used to refer to any specific work item identified in relation to delivery of the 5 Waters Activity. A project may be a management task, system improvement, operational action, or construction of a new asset.

The source of potential improvements may be derived from the strategic plan, from legislative requirements that arose after preparation of the last AcMP or because of changed community needs. There are also uncompleted improvements that were outlined in the previous AMP.

The design of the prioritisation process has been based on a fundamental premise:

> *No existing work, new work or system improvement should be undertaken unless there is identification of contribution to the retention or improvement of levels of service for the whole or part of the Community of Interest that is serviced.*

A project can provide a potential contribution to more than one level of service. Furthermore, a positive contribution in one area may be negated by loss of benefit in another area.

> Renewal of existing assets is not considered within the prioritisation process as a balanced, ongoing renewal strategy is essential to maintain existing levels of service for current and future generations.

A "prioritisation tool" has been developed based on the need to identify which performance measures are impacted by the proposed work (project). It does not attempt to quantity the specific benefits of any project because any project is part of a continuum of projects or work activities. If all projects are done the result will be to deliver levels of service to the targeted performance. It is more important to recognise which levels of service the projects contribute to and in what areas performance will be changed.

The score derived from use of the prioritisation tool can be regarded as *an indicator of comparative community benefit and a comparative evaluation of the consequence of not achieving levels of service if the project or improvement was not done.*

The stage is now all set for the last step:

Establishing the Priorities

Before any project or improvement item can be prioritised there are a number of steps to work through:

Step 1 – ***Identify the levels of service for the 5 Waters Activity***

Step 2 – ***Determine relative importance of each level of service.*** This was determined for each Community of Interest through a consultation process and used to assign a weighting to each level of service against which projects are evaluated.

Step 3 – ***Identify performance measures –with scores and descriptors relevant to each LOS and each utility.*** There are a number of performance measures for any level of service. Some adaption of these measures may be required to allow "scoring" of current performance. Each performance measure should be independent of the others. If measures are not independent there is a danger of "double counting", biasing the prioritised work programme. Descriptors have been developed to describe the range of impact on a performance measure – theoretically in the range from very positive customer benefit (5) to very low customer benefit (1). The long term aim for SDC is of course to achieve positive customer benefit through improved level of service performance and achievement of associated Community Outcomes. It is however, conceivable for a positive benefit to one level of service to be offset by a negative benefit in another. This aspect needs to be carefully considered in the evaluation process.

Step 4 – ***Define "exposure levels" to reflect extent of coverage of proposed work.*** A simple way to think of exposure is as number of customers affected. For example a new water treatment project affects the entire community receiving the supply but a new service connection benefits a single household. However, there is a complication in that the impact of utilities may also be on the natural environment. It was therefore necessary to include a description of the extent to which the natural environment or other stakeholders are affected in the descriptors for impacts to levels of service. This will have to be addressed when evaluating environmental impact of a potential project.

Cultural impacts have been "deemed" to always impact the entire Community of Interest

Once a potential project or improvement action has been identified, a further series of steps are worked through for each project:

Step 1 – ***identify which levels of service are potentially affected by the project.*** These may be affected positively or negatively by the project or work

Step 2 - ***Identify the most significant performance measure the project can impact.*** Only one performance measure should be identified for each LOS identified as relevant.

Step 3 - ***Assign a "current status" performance measure score for each LOS in the community***

Step 4 – ***Assign a community exposure score for the project under consideration***

Step 5 – ***Identify the aspired performance to which this project will contribute.*** This will usually be a score of 5

Step 6 – ***Calculate the prioritisation score***. This is calculated as the sum of all identifiedperformance improvements weighted by the associated level of service and exposure. A database can be used to record project details and assumptions used to determine the prioritisation score. This allows ranked projects to be sorted by community of interest, and scheme and has provision for recording budget information to allow prioritised expenditure programmes to be produced.

and finally

DEVELOPMENT OF EXPENDITURE PROGRAMMES

The derivation of work programmes and budgets for the 5 Waters AcMP is a multi-stage process. The prioritisation tool outlined above provides a useful foundation. However, it would be unwise to totally depend on the scoring process without a further assessment of practical details and extenuating circumstances that may result in a reprioritisation. Typical examples factors that may justify a "manual override" of the project priority score include:

- Coordination of construction activities with other works (eg roading or landscaping),
- Availability of external funding sources (eg MoH)
- Issues over community affordability because of current rating systems
- The need to sequence activities for practical reasons.
- Projects where there are impacts to the same level of service but in more than one utility (eg a new telemetry system).
- Projects that provide benefit to the whole district or more than one community of interest– where efficiencies can be gained through widespread implementation
- Committed projects where funding is to be carried over from previous budgets.

Draft expenditure programmes based on community benefit can then be reviewed with respect to funding capacity. Where funding constraints limit the amount of work that can be undertaken the lower priority projects are deferred to future years and a revised expenditure programme produced

The outcome of this prioritisation process has been derivation of expenditure programmes that prioritise improvements according to community benefit for existing and future generations. The programmes can then be implemented according to affordability of the generations that will benefit from the projects. All project details that include the cost, project description and prioritisation score are permanently stored on a data base until the project is completed.