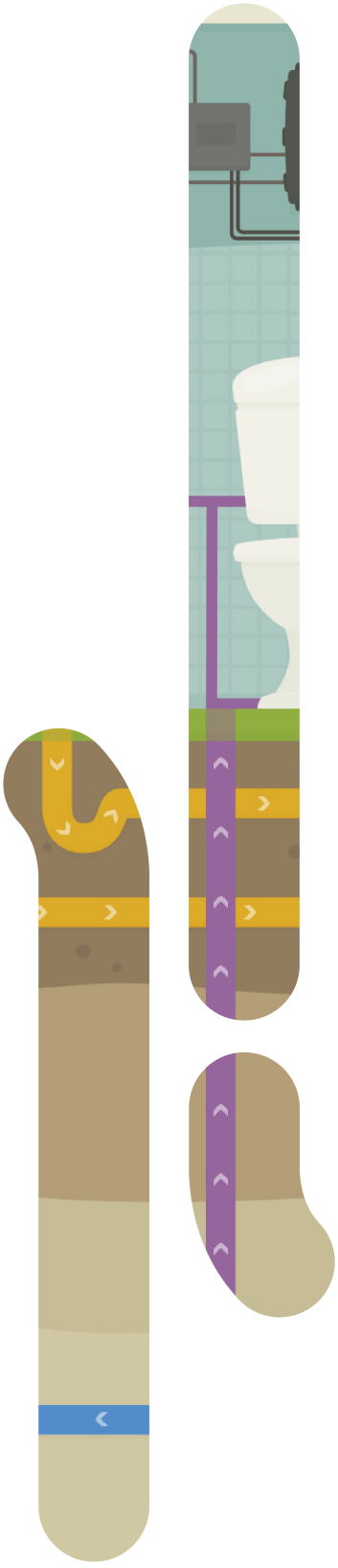
flow systems



Greater Macarthur Priority Growth Area

Submission to Department of Planning and Environment

7 September 2016

Contents

Attached: Submission dated 4 November 2015

Introduction

Flow Systems as part of the Brookfield Utilities Group (BUG) welcomes the opportunity to make a further submission in regard to the important growth corridor represented by the Greater Macarthur Priority Growth Area.

Flow believes sustainable, energy and water efficient utility infrastructure must be enabled at Greater Macarthur area. NSW needs to lead a shift to 21st century infrastructure solutions not just for urban design and planning but importantly, water and energy infrastructure.

Flow recommends Government identify areas such as Greater MacArthur to work with licenced private water utilities to test and confirm the successful implementation of local water and energy systems.

Alternate telecommunications providers are also providing open system telecommunications as cost effectively as NBN.

Integrated Water Cycle Management (IWCM)

Key concerns around the current exhibited plan have been shared by multiple stakeholders, including the Environment Protection Authority (EPA) and Sydney Water Corporation (SWC).

The current exhibited plan fails to address the infrastructure implementation shortcomings identified in the 2015 exhibition. It is apparent from SWC's submission that:

a) Sydney Water has not identified itself as the water service authority for the Growth Area, thereby creating the opportunity for alternate licensed utility providers' participation.

b) SWC identifies the significant capacity, environmental and funding issues that need to be solved before servicing solutions can be documented.

c) The AECOM high level servicing strategy is criticised on a number of grounds.

d) Alternative servicing scenarios to large water and sewer treatment plants are suggested.

e) The environmental issues regarding Hawkesbury-Nepean water quality are highlighted.

f) The lack of capacity, and lack of knowledge of capacity in water & sewer systems upstream and downstream are blockers to SWC supporting rezoning.

Similarly, the EPA submission is critical of the Plan:

a) The plan sets very limited environmental objectives, and does not correlate with the ambitions of "A Plan for Growing Sydney" – the Metro Strategy, nor the recycling and water reuse initiatives of the Growth Centres SEPP.
b) The Plan fails to set targets for water quality for nutrient discharges to the stressed Hawkesbury Nepean System. EPA recommends that any new sewage treatment scheme achieve no net increase in nutrient load to the river.
c) The plan should promote integrated water cycle management that includes sustainable water supply, wastewater and stormwater management and reuse initiatives.
d) The plan proposes Neutral or Beneficial Effect Criteria to guide growth – this is not supported by EPA – it recommends appropriate water quality targets to be set, and met through mitigation measures.

Flow supports the criticism of the planning and strategies as submitted by Sydney Water and the EPA.

It is stated in the EPA submission that alternative sewerage management schemes are the trend for the future, and have been supported by the EPA at Wilton Junction.

Sydney Water has not put itself forward as the water service provider:

> *"the infrastructure plans presented...are not likely to meet the test for prudent and efficient expenditure if funded by Sydney Water. Should Sydney Water be the service provider (for parts or whole of the investigation area), we would re-examine servicing options, and the need, timing and cost of new or augmented networks and treatment facilities."*

If the strategy cannot be funded by Sydney Water, no developer or private infrastructure provider is able to fund these massively expensive works. Sydney Water says:

> *"An alternative servicing arrangement includes potential for the priority precincts to be serviced by a hybrid system of decentralised (local and precinct-scale) wastewater systems (like the system at the Bingara Gorge development) and more centralised systems."*

Flow supports this suggested alternative, except that appropriate local and precinct scale decentralised plants are closed systems may not ever be required to connect to a centralised system. Deferring, perhaps forever, the cost the $1Bn cost of centralised headworks is a game changer for the strategic planning and staging of precinct development.

Flow and other licensed utility providers have proven IWCM technical solutions to the water management issues raised by EPA and SWC.

Potable Water demand and the need for headworks upgrades can be reduced by 50 per cent. Local sewage treatment and recycled water

schemes have minimal environmental impact and achieve more amenable and sustainable outcomes.

Flow also has technical options and a flexible funding and management regimes that can accommodate stormwater management.

IWCM solutions, with minimal environmental impact, and positive environment outcomes are available through proven technologies understood by licensed utility providers.

Water balancing and management of nutrients within local communities without adverse environmental effects is already being successfully demonstrated and showcased.

Off-grid and island mode wastewater systems are now committed or installed and operational in many NSW developments. Examples include Pitt Town, Bingara Gorge, North Box Hill, Huntlee, Cooranbong and Wyee Greenfields developments. Urban examples include Central Park, Green Square and Parramatta centre.

Energy

The AECOM infrastructure strategy indicates that considerable expenditure will be required to extend traditional electricity bulk supply and distribution into the growth area as it develops.

Jemena has indicated that the East Coast natural gas pipeline passes near the area. Whether Jemena reticulate gas through the Growth Area – or not – will be dependent upon a commercial appraisal.

The Growth Area plan is silent as to the potential for sustainable energy supply.

Licensed utility providers, such as Flow, are now in a position to take advantage of rapidly reducing photo-voltaic cell and battery costs to implement embedded energy supply to new developments.

As has been demonstrated by Flow at Huntlee, a new town in the Hunter Valley, and in several of the developments mentioned above, off-grid or island mode supply of electricity is now a reality. Incumbent electricity suppliers may be supportive of “off-grid” or island mode reticulation, as their costs for augmentation of bulk supply and distribution can be deferred for years, if not indefinitely.

Glenfield to Macarthur Urban Renewal Corridor

Flow supports the thrust of the Urban Renewal Corridor Strategy.

There are numerous opportunities near railway stations and other transport and service hubs for intensification of development.

Appropriate redevelopment of this corridor, following master planning principles, should result in improved living environments for residents and an increase in the provision of local services, amenity and employment opportunities.

An augmentation in the distribution provision of traditional utility services may be required for each neighbourhood; consideration needs to be given as to the form in which utility services can be sustainably delivered.

In particular, intensification of development could lead to an increase in the heat island effect of urbanisation. Flow has demonstrated that by greening developments with green streets, roofs and walls, distributing recycled water for irrigation and collecting solar radiation, heat island effect may be reduced by 15 degrees on a 35 degree day. Winter lows are also ameliorated in a green urban environment.

Flow recommends that the Department ensure that the option of alternative local utility infrastructure, along with sustainability and amenity objectives, be established for the renewal neighbourhoods.

We would be happy to discuss the merits of embedded energy and IWCM, as demonstrated at Central Park, and as adopted in principle by City of Sydney and Parramatta Councils.

Conclusion

It is apparent that the objective of the exhibited material is currently unachievable: *"No land will be rezoned in the Priority Growth Area until satisfactory arrangements for the appropriate supporting infrastructure are in place"*.

Utilities infrastructure strategies that are cost effective, fundable, implementable and sustainable are yet to be determined. Alternative utility providers have yet to be consulted. It is unlikely that a Growth Area wide strategy is possible, each precinct and sub-precinct needs to be investigated on its merits, and different but appropriate solutions devised for each.

The servicing option for Greater Macarthur is not a "one size fits all" nor big pipe in, big pipe out. The land form, ownership and environmental constraints are too diverse, and the infrastructure costs too high for conventional servicing.

The incumbent service agencies and the environmental regulator do not currently have the answers to meeting the Government's housing objectives for Greater Macarthur.

We recommend that Government identify areas such as Greater Macarthur to work with private water and energy utilities to test and confirm the successful implementation of local systems by licenced utilities.

We would be pleased to meet with senior staff of the Department, including a probity officer, as soon as convenient, so that the intractable servicing strategy may be dissected for local implementable solutions.

TERRY LECKIE
Managing Director

flow systems