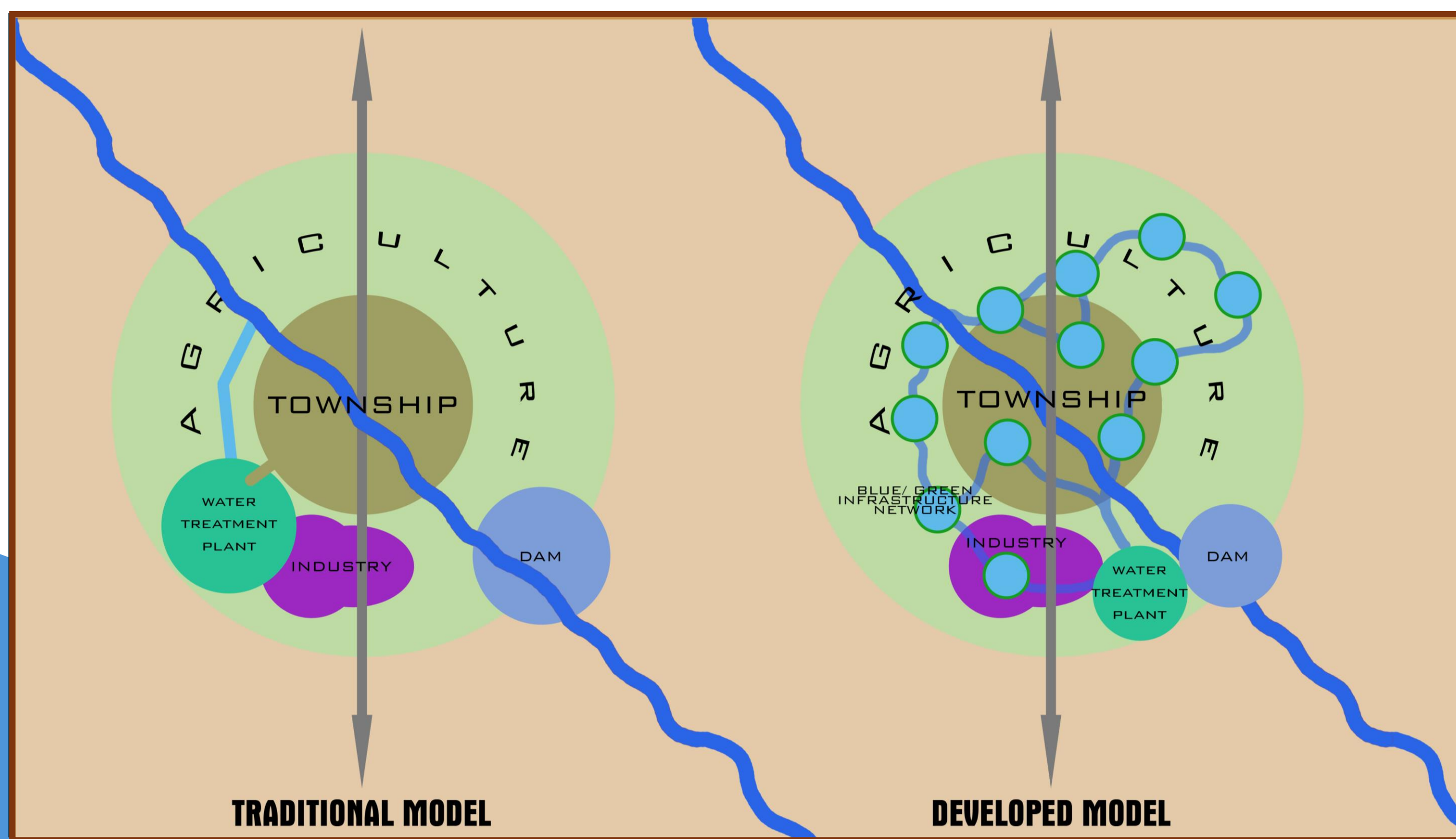


STUDENT RESEARCH

From Environmental Liability to Urban Asset - Transforming the Architecture of Waste-water

SYNOPSIS

How can we use the infrastructure of waste -water treatment and collection and the enhanced water loop for the greater urban good? The re-claimed water discussion is literally polluted by an emphasis on the creation of potable water from re-claimed water, however if the dialogue is redirected to consider the production of non-potable water from waste-water re-claiming, for agriculture, civic and industrial purposes, with potable water remaining to be obtained from "natural sources", constraints on the dialogue are removed. The transition from liability to asset will embrace blue/green infrastructure and its contribution to urban form.



AUTHORS
David Fleeting

RESEARCH SUPERVISOR
Martin Bryant

AFFILIATIONS
Design, Architecture and Building



OBJECTIVE

The recognition of the value of re-claimed water as a resource and its integration through Blue/Green infrastructure in the re-shaping of urban settlements.



METHODOLOGY

The study will examine international examples notably: Israel, Singapore, Spain, USA, and a Case Study: the Shoalhaven REMS project including Blue/Green infrastructure and scalability.



ESTIMATED RESEARCH LENGTH

4-5years

BACKGROUND

Water is the essential ingredient for human settlement, the viability of urban settlement is underpinned by the quest for a guaranteed water supply, creating water security and by extension food security. We use water for a multitude of purposes, and we create water as waste from a multitude of sources, we capture waste-water, we clean it up, and generally just through it away. As the demand on water supply grows with an increase in population so the issue of dealing with "waste-water" correspondingly increases. As the footprint of our urban occupancy increases so does the challenge of balancing built area with park and breathing space, the green punctuation and the creation of a landscape system that in offsetting the built intensity creates an integrated system... an enhanced natural system- blue/green infrastructure.

EXPECTED RESEARCH CONTRIBUTION

The water cycle to date has been primarily the domain of engineers and scientists - producing a viable product - let's add urban design, urban quality, architectural ingenuity and placemaking to the equation, an equation that embraces both innovation in the practicalities of re-use as well as aesthetics in its outcome, harnessing Blue/Green infrastructure as a tool in the shaping of urban ideas.

Water has qualities well beyond the literal requirements - we use water for sustenance, agriculture, fire fighting and industrial processes, but we also watch water in its many states, we watch , contemplate, and see it reflecting the days many moods. Bodies of water, as fluid, snow, ice, vapour are often the centre piece to a landscape setting, an essential visual clue to the to the whole equation.

The study will consider the role of re-claimed water re-use and its associated blue/green infrastructure in a number of selected Townships

REFERENCES

- SHOALHAVEN CITY COUNCIL – REMS PROJECT
- US NATIONAL WATER REUSE ACTION PLAN – FROM WATER STRESSED TO WATER SECURE: LESSONS FROM ISRAEL'S WATER REUSE APPROACH