

# PRESENTATION TO ENVIRONMENT INSTITUTE OF AUSTRALIA AND NEW ZEALAND - SEQ DIVISION Forum on Success and Challenges in Sustainability held on Wednesday 6 July 2005

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## PRESENTATION OUTLINE

1. About Pine Rivers Shire;
2. SEQ Regional Plan - from PRSC perspective;
3. "Sustainability" - let's define it;
4. PRSC - environmental sustainability;
5. PRSC - water sustainability;
6. Question time.

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## ABOUT PINE RIVERS SHIRE

- Current population - 145,000;
- 2003/04 growth rate - 4%;
- 2nd fastest growth Council in Qld and 5th fastest growth Council in Aust;
- Estimated population 2026 - 206,000;
- 750 sq.kms in area;
- Over 45% of the Shire is "green".



## SEQ REGIONAL PLAN - FROM PRSC PERSPECTIVE

- Overall strong support for the Regional Plan;
- Regional Plan very similar to Council's own Planning Scheme currently on exhibition;
- Co-ordinated and integration management of SEQ's population growth;
- State is finally taking regional development in SEQ seriously;
- The Plan and the drought will focus the State on providing sufficient infrastructure for water and environment protection;
- The Plan will assist individual Councils in managing growth, particularly in the area of environment protection.



## ISSUES OF CONCERN TO PRSC RE: SEQ REGIONAL PLAN

- Financial ability of State and Local Government to meet the challenges;
- Funding of infrastructure is a separate program;
- The Plan adds another layer of complexity, cost and bureaucracy;
- Cost to Developers not yet understood.



## THE CONCEPT OF SUSTAINABILITY

- PRSC has adopted the principles set out in the Federal Government's Local Agenda 21;
- Key principles of sustainability include:
  - ↓ integrated decision making;
  - ↓ community involvement;
  - ↓ equity within and between generations;
  - ↓ continual improvement;
  - ↓ precautionary behaviour;
  - ↓ ecological integrity.



## INFLUENCE OF SEQ REGIONAL PLAN ON ACHIEVING SUSTAINABLE OUTCOMES

- In reference to the before mentioned sustainability principles, the SEQ Regional Plan has strongly supported the principles of:
  - ↓ integrated decision making;
  - ↓ community involvement;
  - ↓ precautionary behaviour.



## PRSC - ENVIRONMENTAL SUSTAINABILITY

- PRSC can hold its head high as a leader in environmental management/sustainability;
- Introduced a Tree Preservation Local Law in 1987;
- Developed a Green Plan for the whole Shire in 1994;
- Prepared the first Urban Storm Water Management Plan in 1996;
- Started regional eco-system mapping in 1999;
- Started water quality monitoring in 1996;
- Published the book "Living with the Environment" in 1999;



## PRSC - ENVIRONMENTAL SUSTAINABILITY (CONTD)

- Is the only Council to produce its own water quality guidelines "Stream Health Manual" in 2004;
- Consistently won awards for innovation and research;
- Is one of the few Councils to publish its own work in professional journals including your Institute Journal.



## DESIRED ENVIRONMENTAL OUTCOMES - ASSISTANCE FROM SEQ REGIONAL PLAN

- The Plan is a bonus to Councils in delivering desired environmental outcomes;
- Prior to the Plan:
  - ↓ Councils had difficulty preventing development in areas of high environmental value;
  - ↓ Extensive and costly studies and reports were needed to develop and defend Councils' position on development applications;
  - ↓ Process of Councils' defending decisions in Environment Court were protracted and costly.



## DESIRED ENVIRONMENTAL OUTCOMES - ASSISTANCE FROM SEQ REGIONAL PLAN (CONTD)

- The urban form in the Regional Plan is a major step towards sustainability and will reduce pressures on the environment.



## KEY ROLE OF LOCAL GOVERNMENT IN ENVIRONMENTAL SUSTAINABILITY

- Local Government plays both an operational and a strategic role in environmental sustainability;
- The challenge to Local Government is to co-ordinate and integrate the management of our environment/natural resources/natural assets.



## KEY ROLE OF LOCAL GOVERNMENT IN ENVIRONMENTAL SUSTAINABILITY (CONTD)

- Integration is required between:
  - ↓ planning and implementation phases;
  - ↓ the Departments of Councils;
  - ↓ the multiplicity of Councils;
  - ↓ the various Government Departments;
  - ↓ the non Government organisations;
  - ↓ the community organisations;
  - ↓ Commonwealth Departments;
  - ↓ each level of Government and the community.



## ENVIRONMENTAL MANAGEMENT FRAMEWORK

- Measurement of performance will also be a major challenge to Local Government;
- PRSC has completed an Environmental Management Framework document which will:
  - ↓ establish a framework to co-ordinate environmental management across Council;
  - ↓ report on performance against its environmental goals and objectives.



## ENVIRONMENTAL LEVY

- PRSC only introduced its environmental levy last year;
- Cost \$30 per rateable property;
- Principle purpose is to purchase environmentally sensitive land in order to prevent development;
- Major concerns that the State should be sharing the financial burden of land purchased.



## DRAFT KOALA CONSERVATION PLAN

- Pine Rivers Shire has one of the highest densities of koala population in SEQ;
- PRSC has worked closely with the State in developing the Draft Conservation Plan;
- PRSC contributed financially toward research project which led to the Conservation Plan;



## PRSC - WATER SUSTAINABILITY

### Sources of PRSC Water

- Council supplies around 22,000 million litres per annum to its bulk and retail customers;
- Council treats around 12GL at Petrie sourcing 60% from its own Lake Kurwongbah and 40% from Lake Samsonvale (SEQWater);
- Council buys around 10GL of bulk treated water from Brisbane City Council;
- Council also supplies two major bulk treated water customers, being AMCOR (2GL) p.a. and Redcliffe City Council (5GL) p.a.



## PRSC - WATER SUSTAINABILITY (CONTD)

### Planning for the water supply needs of growing populations

- Regional Planning Scenarios established;
- Priority Infrastructure Plans/agreements in place;
- Understand the regional raw water availability based on annual safe dam yields;
- Good calibrated network models annually reviewed;
- Trunk infrastructure built of the right size and at the right time to facilitate development trends/demand;
- Demand management strategies in place;
- Asset management strategies in place.



## CAPITAL COST OF WATER INFRASTRUCTURE IN PINE RIVERS OVER THE NEXT DECADE

- In excess of \$30M with a proposed annual \$6M capital program over the next 5 years;
- Particularly over the next 5 years the Shire facing rapid growth in its Northern Growth Corridor (Dakabin, Mango Hill).



## PROGRESS ON PIPS

- PIP started in 2000 and likely to be completed in early 2006;
- Planning to cater for a population increase from 145,000 to 180,000 over the next 15 yrs;
- Infrastructure worth \$730M for whole of Shire funded 33% by infrastructure charges;
- Roughly 7-8% (\$53M) is the water supply & sewerage component and this required generally over the next 5 years.



## ENVIRONMENTAL IMPACTS OF WATER CONSUMPTION AND TREATMENT

- The SEQ region will need more dams;
- Greenhouse gas emissions increase through infrastructure construction;
- Operational power costs of treatment and pumping;
- Alum sludges that need to be disposed of in a licensed facility.



## DAILY DISPOSAL OF 26ML WASTEWATER

- Pasture Irrigation at Brendale and Dayboro Wastewater Treatment Plants;
- Irrigation of sporting fields, golf courses, and parks;
- River disposal of effluent in accordance with EPA licence requirements (tertiary quality effluent 5:1-2);
- Disposal of 3.5 ML sewage per day to Brisbane City;
- On-site systems on rural, rural & park residential properties;
- Only around 8% (around 2 ML per day) of effluent is beneficially reused.



## RECYCLING COST OPTIONS

An approximate order of cost per KL for:

- |                                   |        |
|-----------------------------------|--------|
| ▪ Traditional treatment processed | \$1.30 |
| ▪ Recycling Options:              |        |
| ↓ Effluent recycling              | \$3.00 |
| ↓ Indirect potable reuse          | \$5.00 |
| ↓ Sewer Mining options            | \$5.00 |
| ▪ Desalination treated water      | \$5.00 |
| ▪ Bottled water                   | \$5.00 |



## ALTERNATIVE WATER SUPPLY OPTIONS

- Rainwater tanks;
- Groundwater sources;
- Desalination;
- Recycling Options:
  - ↓ Storm-water recycling for irrigation;
  - ↓ Effluent recycling for irrigation and toilets;
  - ↓ Indirect potable reuse of storm-water & effluent;
  - ↓ Sewer Mining options for irrigation & toilets;
  - ↓ Groundwater recharge.
- Bottled water.



## WATER CONSERVATION STRATEGIES

- **Integrated Urban Water Managed Schemes (up to 70%):**
  - ↓ Rainwater tanks and recycled water third pipe systems.
- **Demand Management (up to 40%):**
  - ↓ Restrictions;
  - ↓ Pricing;
  - ↓ Leakage Detection and Pressure Management.



## WATER CONSERVATION STRATEGIES (CONTD)

- **Public Education (around 5-10%):**
  - ↓ Schools;
  - ↓ Fetes, Festivals, Show Holidays;
  - ↓ Internet and brochures.
- **Water Saving devices (up to 5%):**
  - ↓ Shower rose rebates and Garden Packs.



## QUESTIONS

