



# Retrofitting the Suburbs

Permaculture design for the  
Energy Descent future

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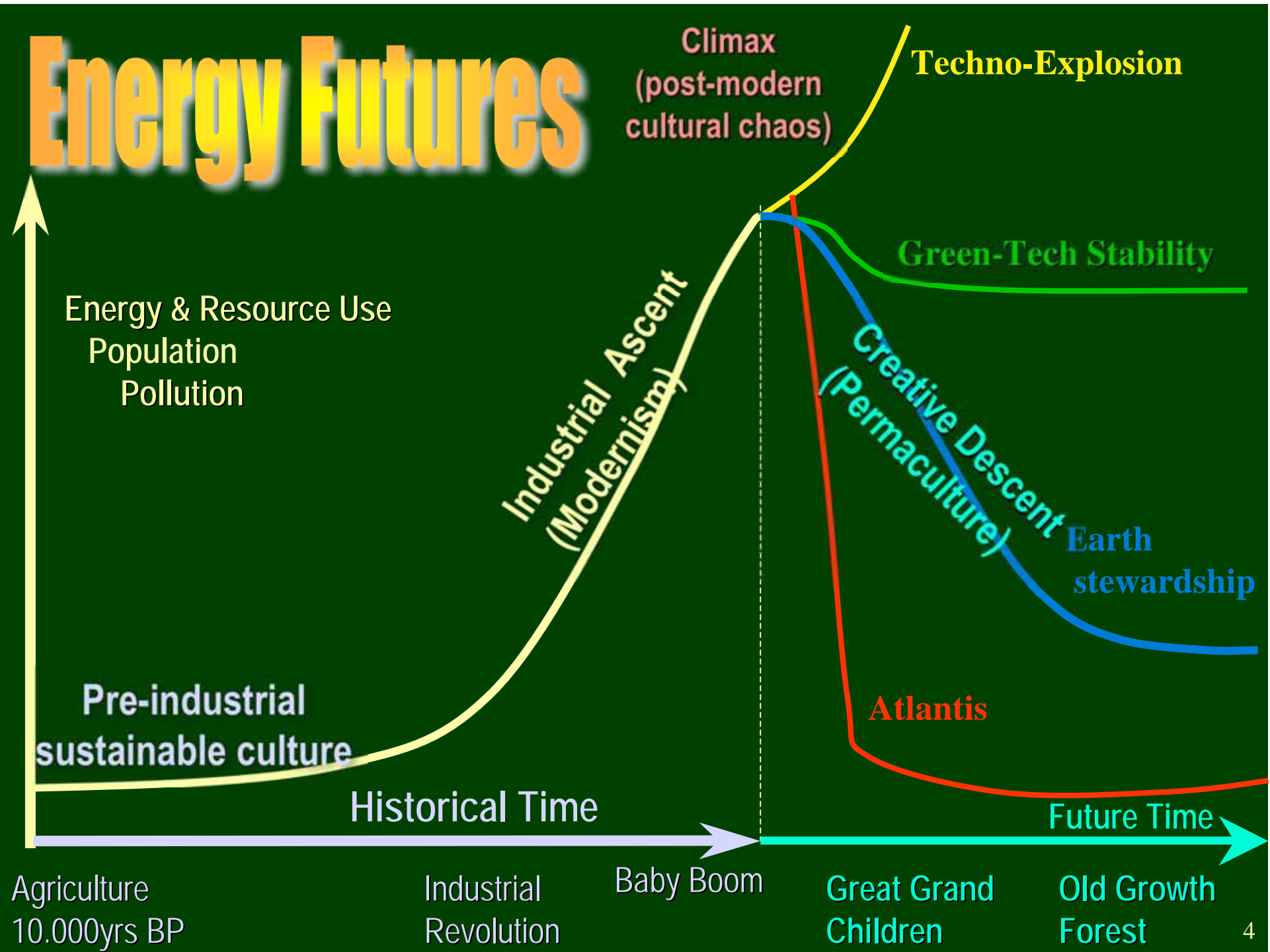
***ECOV    Bendigo May 2006***

# How will we cope with the energy descent future?





# Energy Futures



# Foundation of the Suburban Dream

**The post war economic boom of the 1950's**

- Cheap and abundant fossil fuel and timber
- Australia riding on the sheep's back (wool \$2.40/kg)
- War service homes and low interest rates
- Public infrastructure for suburban growth

**Typical baby boom families of the 1950's**

- Single income (\$50-100/week)
- Housewife & three children
- House proud self reliance & domestic frugality
- Suburban consumer icons



# Problems with the Suburban Dream

## Urban sprawl

- Poor use of public infrastructure (sewerage)
- Car based transport
- Loss of agricultural land



## Dysfunctional Economics

- Unproductive capital investment
- Speculative land values
- Declining food & other household produce
- Household debt and consumer addiction



## Dormitory suburbs

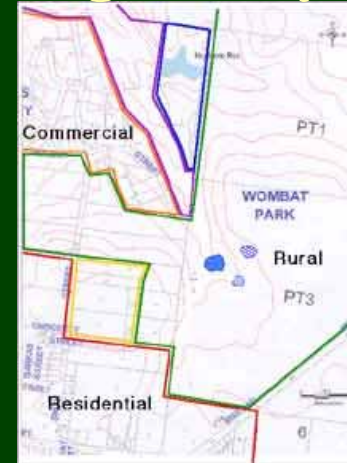
- Declining household size
- Empty houses and streets
- Lack of community & increased crime



# Conventional Responses

## Planning Regulations to encourage increasing density

- Smaller house blocks
- Dual occupancy infill development
- Medium density redevelopment



## Lifestyle responses

- Holidays away
- Live out; the mobile lifestyle
- The renovation obsession
- Move to inner city: apartment living
- Move to country living (the super suburb)

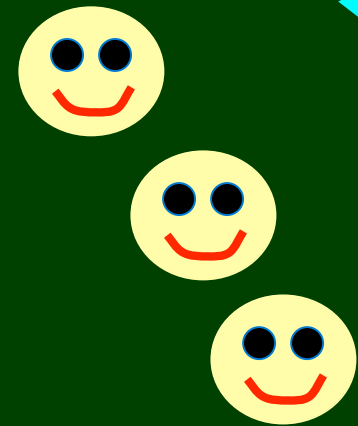
## Environmental responses

- Building insulation and energy efficiency
- Improved public transport
- Urban green space, water sensitive urban design
- Native landscaping for biodiversity & water conservation



# What if available energy declines?

- A falling energy base
  - Expands symptoms (economic, social)
  - Brings problems home ( terrorism, refugees, recession)
  - Make current urban design strategies ineffective
- Positives of energy descent
  - Drive creative ecological design and innovation
  - Help overcome obsessions and addictions
  - Renew community spirit and solidarity





# Permaculture Solutions for Suburbia





# Gardening for Food security, Conservation & Health





# Firewood; sustainable & ethical energy

Cooking & hot water from wood at Melliodora



Firewood  
& backup gas



# Food Preserving & Culture



Pasta sauce,  
bottled fruit & jams



Pasta making



# Passive solar design & natural materials

New Construction Melliodora:  
Mud brick thermal mass floors & load  
bearing walls,  
Salvaged timber flooring & joinery

Eco retrofit CERES Melbourne  
attached greenhouse





# Water harvesting & natural treatment



Gravel reed bed treating grey water; Fryers Forest



Galvanised rainwater tank, Melliodora



# Animals in the system

Ducks in garden pond



Hen & chicks in moveable frame





# Creative Reuse & Recycling

New fashion clothes made from  
recycled fabrics Olympia, USA

Recumbent bicycle made from rubbish





# City Farms & Community Gardens



Uni NSW, Sydney 2003



Northy St Brisbane 2003



CERES Melbourne 1984, 2004





# New ways of Trading & Finance



Community Supported Agriculture



LETS  
local  
currency



WWOOF  
Australia



Willing Workers On  
Organic Farms Australia



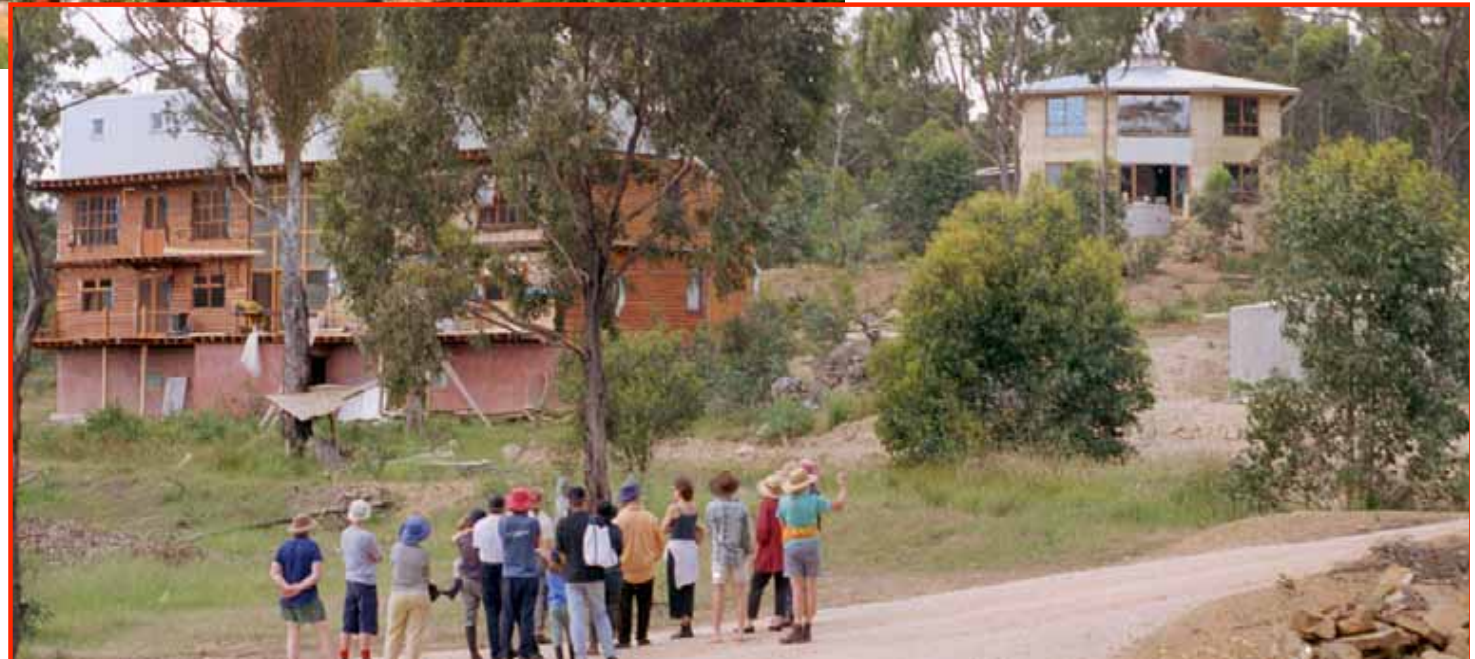
# New ways of sharing land

- Ecological building
- Common infrastructure
- Community governance



Village Terrace  
Co-housing at  
Earthaven N. Carolina

Fryers Forest  
Eco-village  
Central Victoria



# Suburban Prospects ?

## The End of Suburbia?:

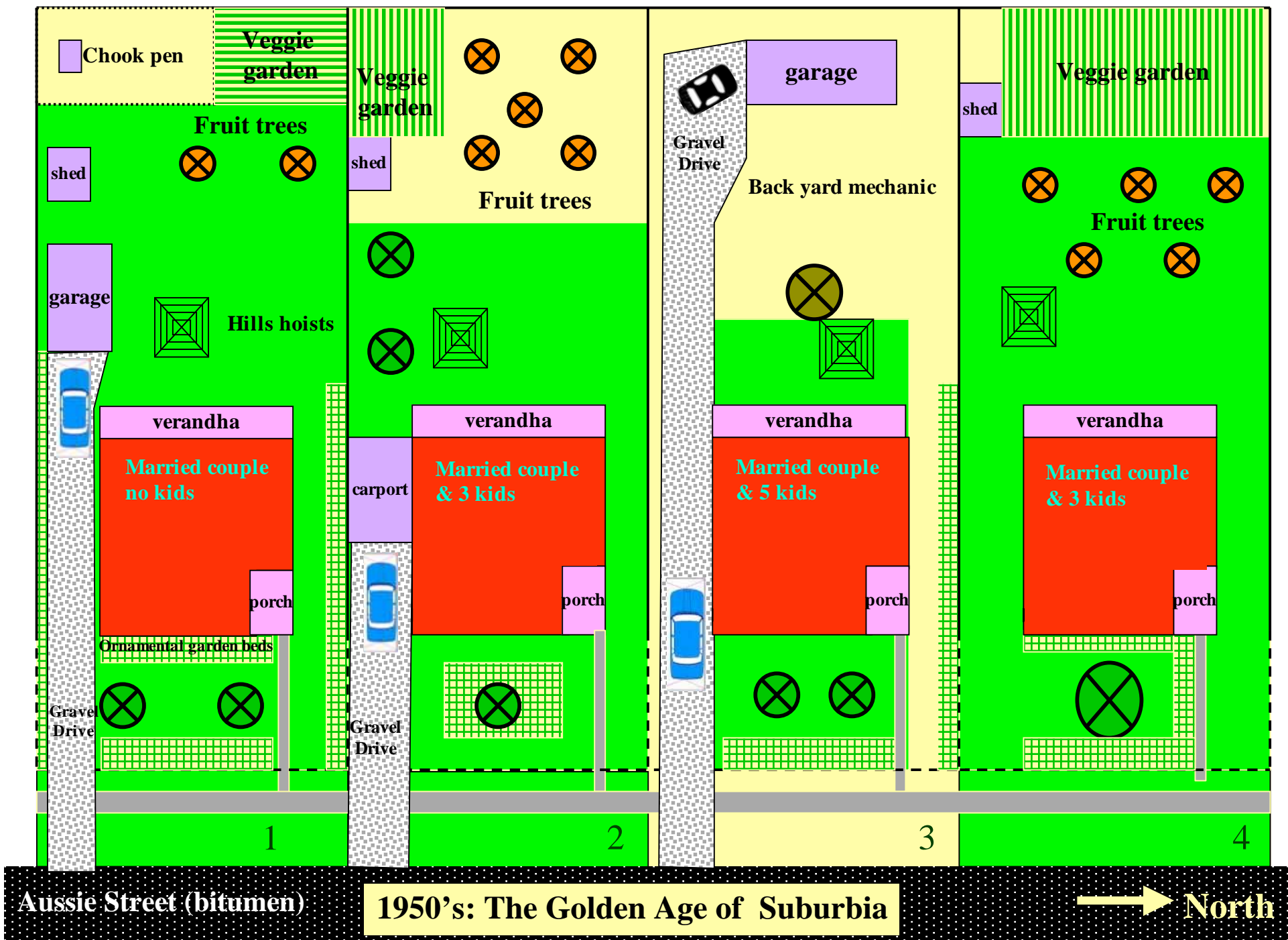
- Commuting to work
- Dependence on long distance food and energy supply
- No community functionality

## Retrofit of Suburbia?:

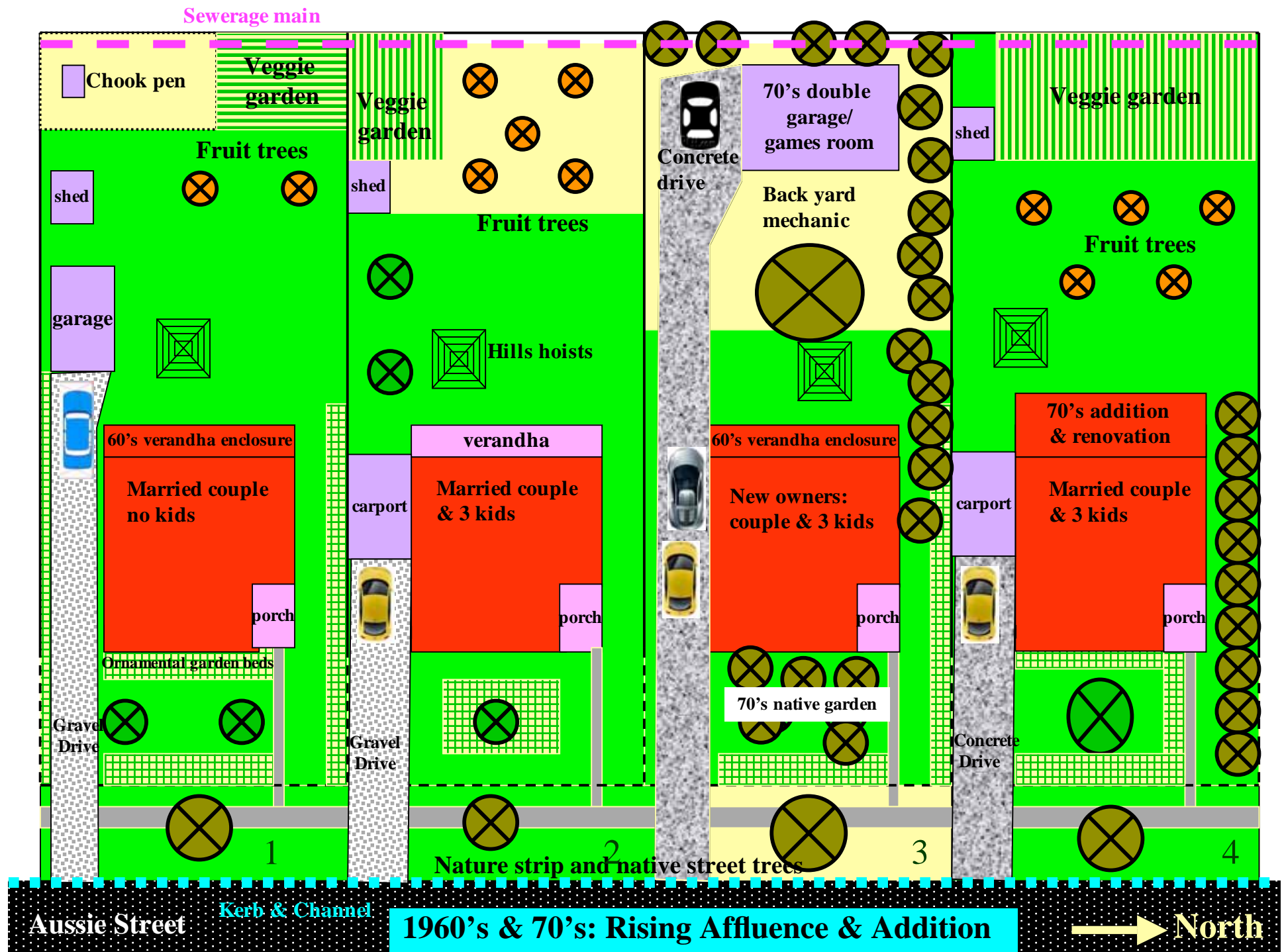
- Home based work, telecommuting, cottage industry
- Extended families, lodgers and shared households
- Fertile soils, water supply & infrastructure for urban agriculture
- Recycle of storm water and human waste
- City Farms, CSA's, Farmers Markets

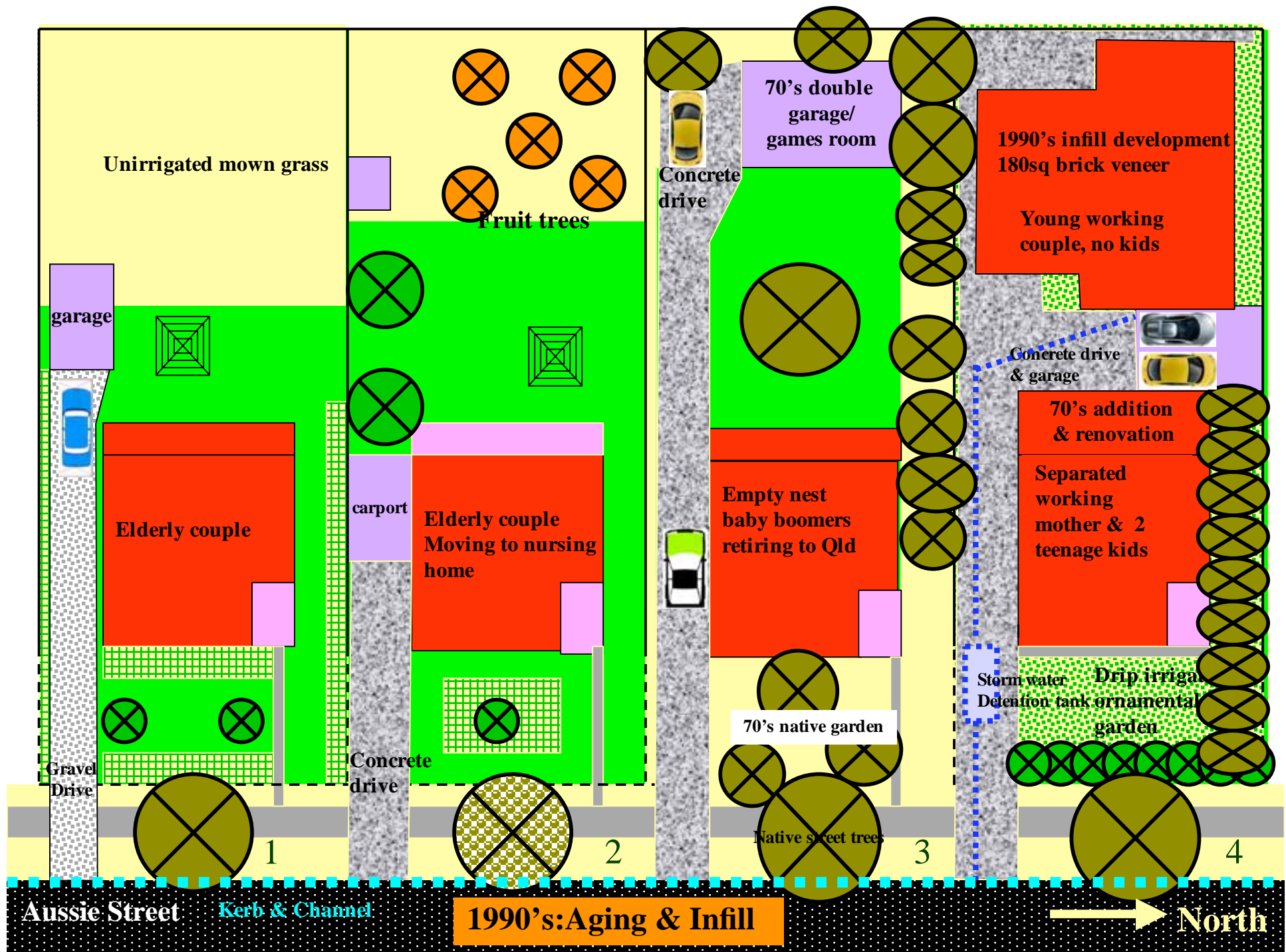
**Lets paint the picture**





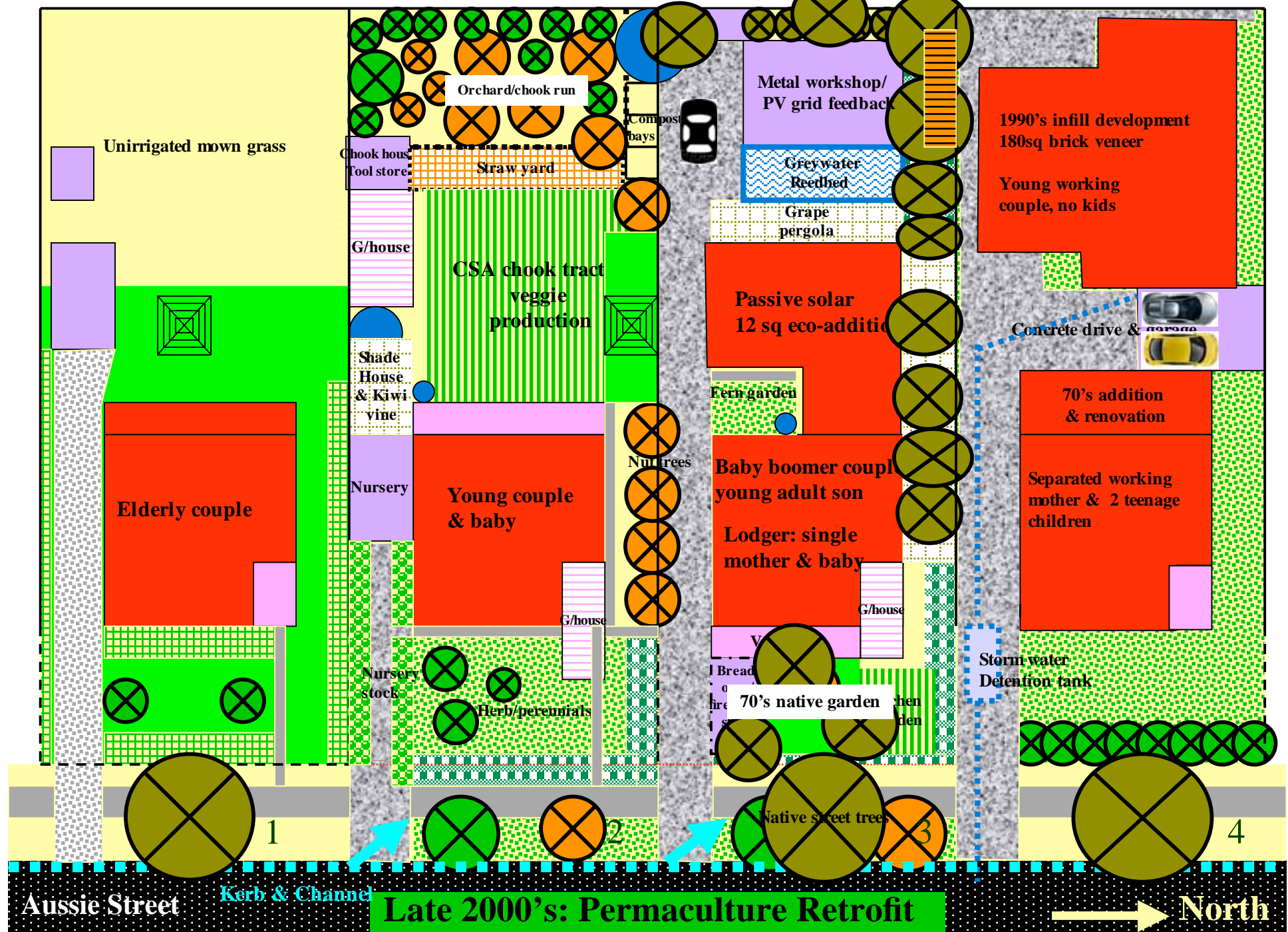








50klit rain tank, metal racks, 1st water tank & wind turbine



# ***The Suburban Advantage***

- Detached houses easy to retrofit
- Solar access and space for food production
- Water supply infrastructure
- Fertile soils & nutrient supply
- Mild climates, access to the sea, city and the hills



# ***Retrofit Imperatives***

- Network for inspiration and information
- Get producing
- Involve kids and their friends
- Make contact with neighbours, barter
- Review needs, reduce consumption
- Share your place: take in a lodger
- Creatively work around regulatory impediments
- Pay off the debt / work from home
- Retrofit for the future, not speculative gain

# Resources for understanding Energy Peak and Descent

- Energy Bulletin [www.energybulletin.net](http://www.energybulletin.net)
- *The Party's Over: Oil, War and the Fate of Industrial Societies*  
by Richard Heinberg      New Society Publishers 2003
- *Permaculture: Principles & Pathways Beyond Sustainability*  
by David Holmgren      [www.holmgren.com.au](http://www.holmgren.com.au)
- *Fuelling the Future* conference, Kinsale Ireland  
<http://www.fuellingthefuture.org/>
- Thomas St Clayton Food Garden Campaign  
<http://thomasstreet.info>



# Permaculture: Reclaiming our place in nature

