

Special Meeting of Council

MINUTES

Thursday 13 March 2008 City of Joondalup, 6pm

TAMALA PARK
REGIONAL COUNCIL
(TPRC)
COMPRISES THE
FOLLOWING
COUNCILS:

Town of Cambridge City of Joondalup City of Perth City of Stirling Town of Victoria Park Town of Vincent City of Wanneroo

MEMBERSHIP

OWNER COUNCIL	MEMBER	ALTERNATE MEMBER
Town of Cambridge	Mayor Simon Withers	
City of Joondalup	Cr Albert Jacob	
	Mayor Troy Pickard	
City of Perth	Cr Eleni Evangel	
City of Stirling	Cr Paul Collins	Cr Kathryn Thomas
	Cr John Italiano	Cr Terry Tyzack
	Cr David Michael	
	Cr Bill Stewart	
Town of Victoria Park	Mayor Trevor Vaughan	
Town of Vincent	Mayor Nick Catania	Cr Steed Farrell
City of Wanneroo	Cr Tracey Roberts	Cr Alan Blencowe
	Cr Bob Smithson	Cr Frank Cvitan

NB: Although some Councils have nominated alternate members, it is a precursor to any alternate member acting that a Council carries a specific resolution for each occasion that the alternate member is to act, referencing Section 51 of the Interpretation Act. The current Local Government Act does not provide for the appointment of deputy or alternate members of Regional Councils. The DLGRD is preparing an amendment to rectify this situation.

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PRESENT

Chairman Cr Troy Pickard

Deputy Chairman Cr Tracey Roberts

Councillors Cr Paul Collins

Cr John Italiano
Cr Albert Jacob
Cr Bob Smithson
Cr Bill Stewart
Cr Trevor Vaughan
Cr Simon Withers

Alternate Members Nil

Staff Rod Constantine (Chief Executive Officer)

Apologies Councillors Cr Nick Catania

Cr David Michael

Leave of Absence Cr Eleni Evangel

Absent Nil

Consultants Nil

Apologies Councils'

Advisors

Lewis Bond (City of Perth) Frank Edwards (City of Perth) John Giorgi (Town of Vincent)

Charles Johnson (City of Wanneroo)

Councils' Advisors

In Attendance

John Bonker (Town of Victoria Park) Garry Hunt (City of Joondalup)

Mike Tidy (City of Joondalup

Members of the Public Nil

Press Nil

PRELIMINARIES

Chairman Cr Troy Pickard said an opening prayer before the commencement of the meeting.

1. OFFICIAL OPENING

The meeting was declared open at 6:10pm.

DISCLOSURE OF INTERESTS

Nil

2. PUBLIC STATEMENT/QUESTION TIME

Nil

3. APOLOGIES AND LEAVE OF ABSENCE

Apologies were received from the following councillors:

- Cr Nick Catania
- Cr David Michael

Cr E Evangel has a leave of absence for the period 25 February 2008 to 14 March 2008 inclusive.

4. PETITIONS

Nil

5. CONFIRMATION OF MINUTES

Not applicable

6. ANNOUNCEMENTS BY CHAIRMAN (WITHOUT DISCUSSION)

Nil

7. MATTERS FOR WHICH MEETING MAY BE CLOSED

Nil

8. REPORTS OF COMMITTEES

Not applicable.

9. PURPOSE OF THE MEETING

A PowerPoint presentation outlining the matters to be considered in the TPD structure plan was received and discussed.

Copies of PowerPoint slides used in the presentation were distributed to elected members and are attached as an inclusion for Minutes.

It was resolved that the presentation be RECEIVED by absolute majority.

10. ELECTED MEMBERS MOTIONS OF WHICH NOTICE HAS BEEN GIVEN

Nil

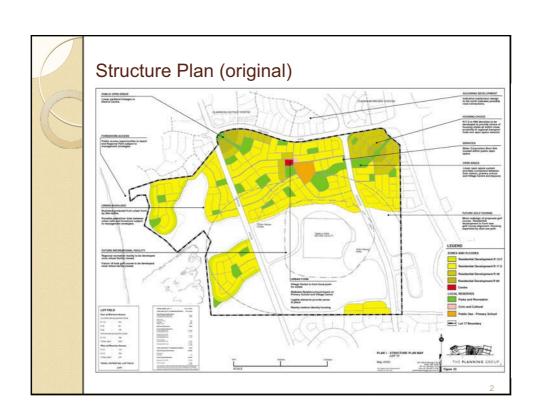
11. QUESTIONS BY ELECTED MEMBERS OF WHICH DUE NOTICE HAS BEEN GIVEN

Nil

12.	URGENT BUSINESS APPROVED BY THE CHAIRMAN
	Nil
13.	MATTERS BEHIND CLOSED DOORS
	Nil
14.	GENERAL BUSINESS
	Nil
15.	FORMAL CLOSURE OF MEETING
	The Chairman declared the meeting closed at 8.15pm.
These	minutes were confirmed at a meeting on
SIGNE	ED this day of
as a tr	rue record of proceedings.
	CHAIDMAN
	CHAIRMAN



Presentation to Special Meeting of Council 13 March 2008

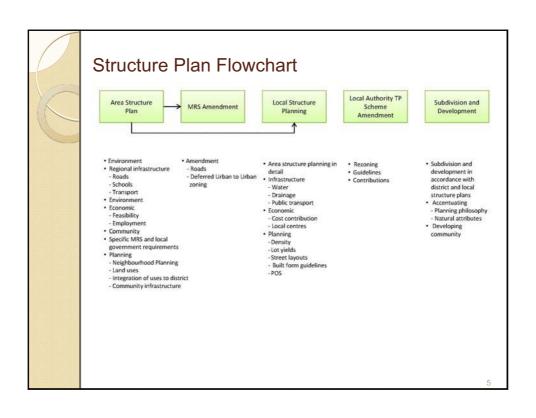


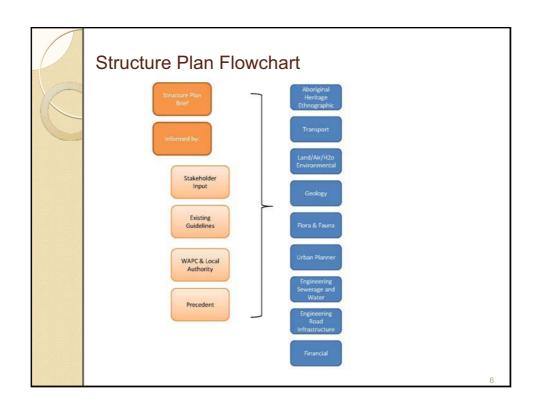


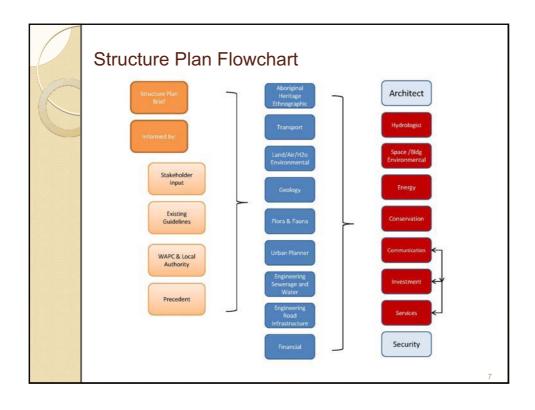
Key Strategic Goals

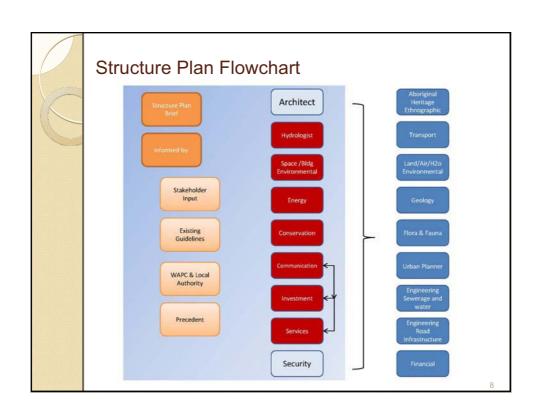
- Lifestyle and housing choice
- Effective use of land and infrastructure
- Long term health of the environment
- Identity, equity and inclusiveness
- Long term economic health
- People and government

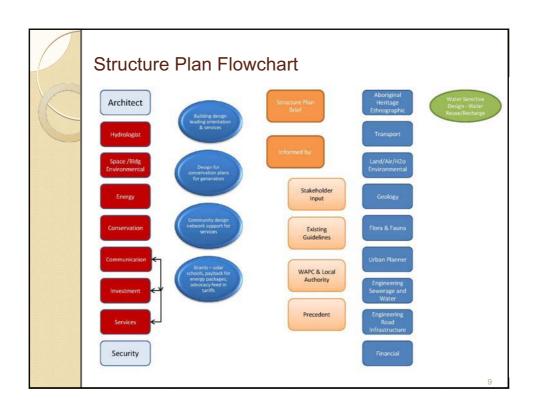
(City of Wanneroo Smart Growth Criteria)

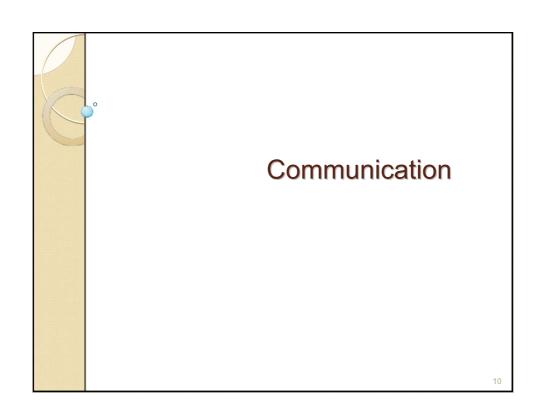












Communication/Optical Fibre Network

- 1. Broadband at 150mbps can be provided to TPD
- 2. Long term Government plans broadband at 50mbps
- 3. TPRC can provide and lease 2 conduits to provide services and revenue
- 4. The network to be optical fibre into every meterbox and through buildings
- 5. Ownership of conduits remains with TPRC
- 6. TPRC reserves space in conduits for TPRC and community networks
- 7. Bottom line
 - Better and bigger range of services
 - No additional net infrastructure cost
 - Ongoing annual revenue



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Communication/Optical Fibre Network

- 1. Possible uses existing technology
 - Entertainment services
 - Local intranet TV internet
 - IP telephony
 - Monitoring panels roof solar grid water gathering & reuse
 - Estate reticulation to homes, verges, parks, schools
 - Security cameras home and estate
 - Internet service delivery
 - Medical services
 - Household maintenance
 - Purchases from local retailers
 - Estate services
 - · Information and events
 - · Hazard notification
 - Immediate information train/bus/schools
 - Car pooling
 - · Estate information performance/power generation/water recycling
- 2. Possible uses development technology
 - Automation electronic signage
 - Automation LED street lights
 - Automation Water harvesting/treatment

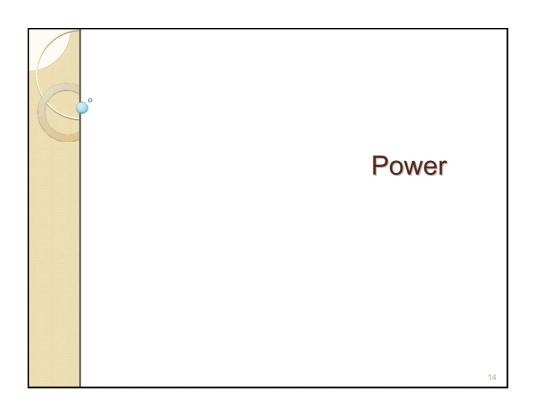


Communication/Optical Fibre Network

Future advantages

- Massive growth capacity
- New services without additional infrastructure
- New providers capacity provided in dual conduits
- Reduction in public place disturbance to provide new infrastructure
- Remote capacity to adjust services' behaviour (elimination of solid state on site appliances)
- Future commercial opportunities e.g. road transponding devices supporting GPS, transport delivery, tracking services
- Automation local transport signals
- Automation tramway services





Power

- 1. Western Power substation requirements
- Western Power physical land and physical infrastructure (including transmission lines)
- 3. Power generation within Tamala Park
- 4. Power utilisation within Tamala Park



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Substation 1 Connect Hester Road & Clarkson Substations

Boost inadequate capacity new developments

- Burns Beach
- Tamala Park
- Mindarie Keys
- Neerabup Industrial Area (via Clarkson)

Impacts

- Land area requirement 1.2 hectare
- 132 kv overhead transmission lines
- o Road medians Connolly Drive, Marmion Avenue
- Location (2km radius) aesthetics



Substation 2

- Substation 2 MRC feed in power
- Land area requirement 1.0 hectare
- Connection grid Marmion Avenue
- Owners cost
- Land ownership/contract (power generation) issues
- Future use of Tamala Park closed landfill



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Power Self Sufficiency – Tamala Park

- Solar Roof Top Power Grid 2.5 hectares
- Solar Concentrator Array MRC landfill
- Wind Turbines (iconic statement & high generation capacity)
- Gas Plant methane from MRC landfill
- 。BioDiesel Potential Plant (plastics) MRC



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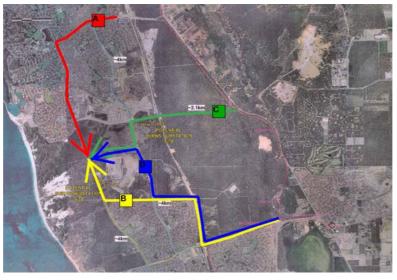
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Power - Actions Taken - WP



- Letters/meetings WP 2006 current
- Positions at EBD Workshop
- Undergrounding lines proposed + \$1.5m KL
- Other line routes substation locations proposed
- TPRC/MRC generating capacity explained
- Conduits proposed TPRC cost (Connolly Drive)
- WP now installing lines Burns Beach Rd
- WP & MRD exploring site Neerabup/Freeway (Valuations)



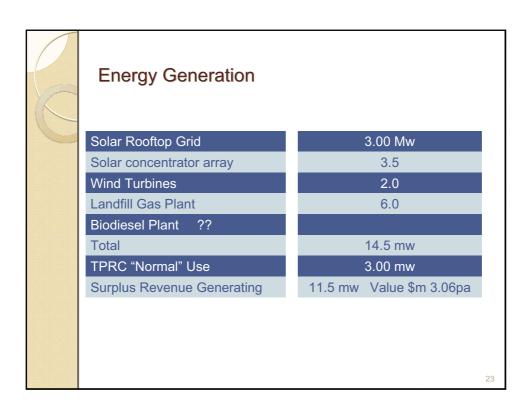


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TPRC Supply Potential - Actions

- Roof top grid & solar array
- Gas generating contract from MRC landfill
- Estimates of utilisation/production prepared
- Linkage to optical fibre network resolved
- Cost assessment/financial benefits explored
- Feed in tariffs
- Direct use of DC power generated (public lighting tramway)





Financ	cing Paybac	K			
	Solar Roof Grid	Solar Array	Wind Power	MRC Gas Plant	Biodies Plant
Government Su Solar Cities Gra		30%	17%		
Land premium	16%	3%	3%		
Interest Revenu	ıe 2%	1%	1%		
Building Cost S	Saving 2%				
Meter Reading	Rebate 1%				
External Finance	ce	66%	79%	100%	100%
Feed in Tariff	(100%) 10 Yrs	(100%) 10 Yrs	100% 10yrs	100% (12 yrs)	100% 5 yrs

New Energy Uses - TPD

- _o Tramway
- 。 LED lights, signs streets and public places
- Water Treatment Plant
- BioDiesel Plant
- Estate Reticulation



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Wind Power



Quiet revolution wind turbines



Apartment tower to feature integrated wind turbines



Wind turbines in the Galapagos

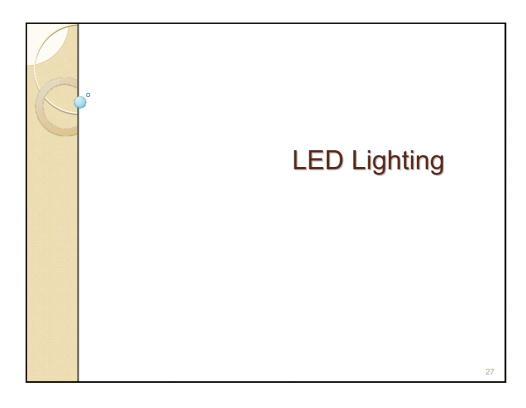


'Aquarius' tower to integrate wind turbine



Solar & wind powered streetlights

Micro wind turbines



Commercial buildings & homes Roadways Walkways Schools & public buildings/places

Why LED's?

- Opens opportunities for a Greenfield development
- o Can use TPRC generated power
- Use direct current no alternating power conversion
- Use about 10% power for equivalent light
- Light leakage problem resolved
- Light can be targeted to discrete uses, (security, safety, illumination
- Light system can be programmed
- Different illumination level or colour spectrum at different hours of night or purpose
- o Can be programmed to follow use

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LED Lighting Facilitates

- Tram
- Greenway lighting
- Street signs paradigm change
- One sign multiple purposes e.g. (parking signs 8am-5pm Mon- Sat not needed outside these hours)
- Additional street name, direction, message aesthetic, bus stop and timetable
- Street signage LED in lamp pole

. .

LED Benefits

- Use of TPRC generated power no cost
- Savings over equivalent current products
- Net additional green power into Western Power grid

Issues with LED Lights

- o Heat sinks
- o Colours
- Lumens per watt
- 。 Regulatory authorities

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Current Uses

- Honda and other cars
- o All electric appliances monitor or pilot light
- In car dashboards
- Lights in water
- Large screens at sporting events
- Signage
- White/blue car headlights (Audi, Toyota, Lexus 2008)
- Now next generation of television (Sony)
- Street and public place lighting Canada (Xmas 2007), China, Europe, United States

In Australia

- Most recent studies say LED for street lighting yet to be accepted in trials
- Australian greenhouse office study currently promoting move to but does recognise future LED possibilities



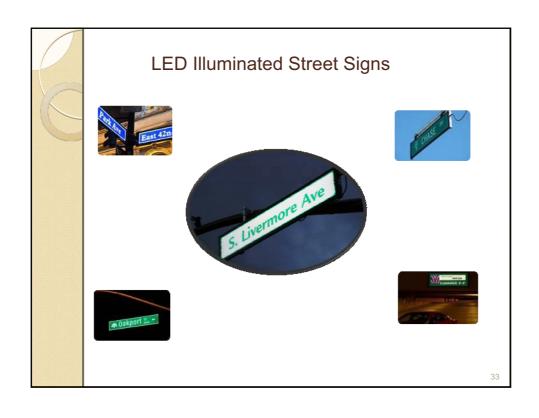


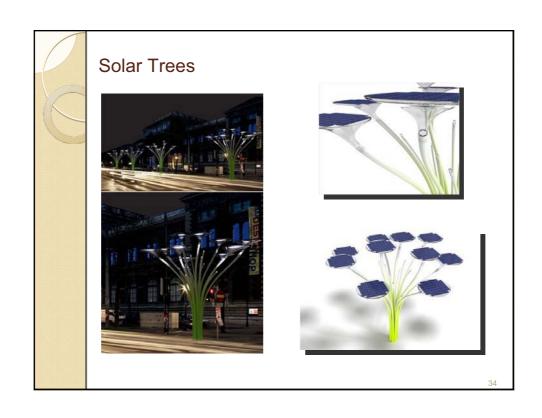
Audi Pioneers First All-LED Headlight

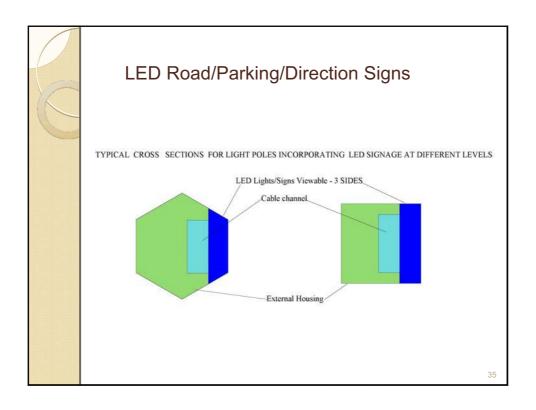
Audi have developed the first headlight cluster illuminated solely by LED lights.

The use of LED's in car lights is nothing new, however Audi have been the first to utilise the technology as more than an aesthetic feature in turn signals as well as for the low and main beam.

The outstanding benefits of LED technology include its low energy consumption, a daylight colour for enhanced contrast and more pleasant visual perception, the non-wearing design, lower voltage requirements and compact dimensions.







Bottom Line

- Objectives achieved
- Security
- Economy
- Environment
- Long term cost savings residents
- Long term cost savings local authority
- Aesthetic quality of landscape/streetscape
- Supports a variety of additional environmental economic and community objectives

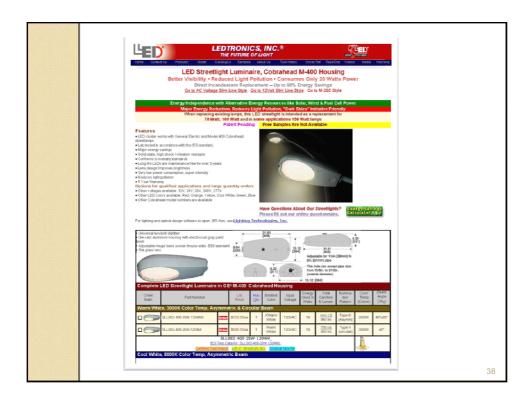


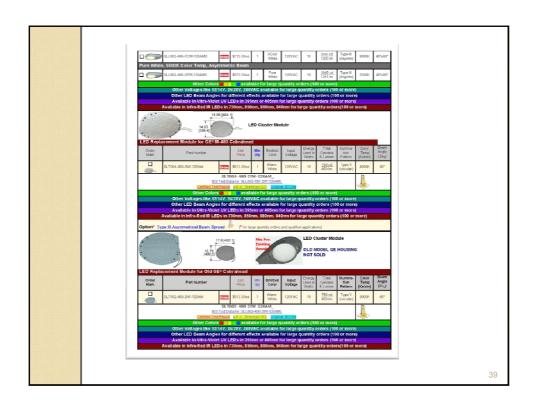
Cost Issues

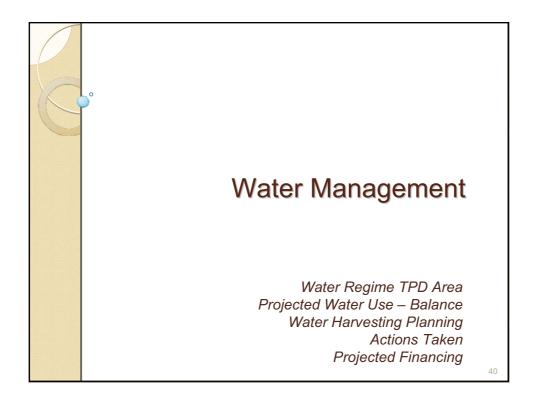
- Nil additional
- Long term maintenance and infrastructure saving
- Enhanced possibilities of no resident power bill, two monthly credit for households

TPRC Project Issues

- Timing no technical problem for street lights and signs
- Manufacture for Australian (TPRC requirements) to be negotiated
- o Grant issues to be resolved with new Federal Govt programs
- o Regulatory acceptance required
- o Test sites within participant Local Governments required







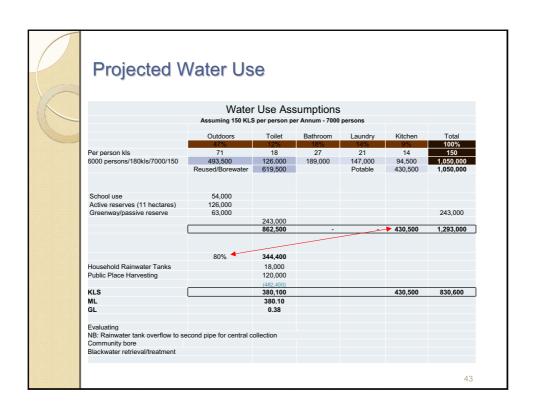
Water Regime

- Headworks
- Sumps in Neerabup Road
- Water Corporation Extraction Bores
- Water Corporation Treatment plant
- MRC Extraction Bore
- Leachate from Landfill
- Underground Hydrology

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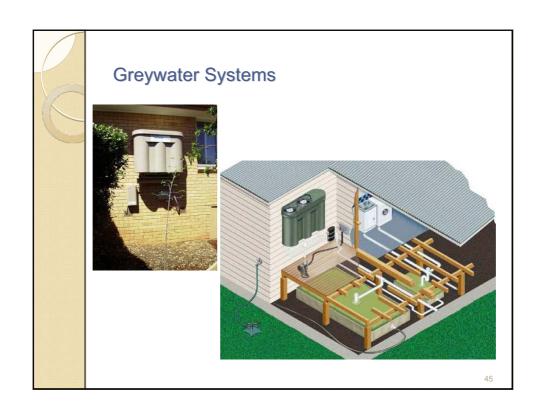
CSIRO Monitoring Bores - TPD Locality





Water Management Planning

- On lot greywater systems
- Reduced use appliances and processes
- Estate options (communal bores)
- Landscape design (public and private)
- Water Harvesting Treatment and Reuse
- Conserving site hydrology
- New Treatment technology





Aquifer Recharge

How does an infiltration gallery work?

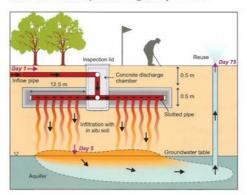


Figure 1: Cross-section of an infiltration gallery, beneath a golf course.

Managed aquifer recharge is a method of adding a water source such as recycled water to underground aquifers under controlled conditions. The water can be withdrawn at a later date, or used as a barrier to prevent saltwater or other contaminants from entering the aquifer.

Water can be added to the aquifer by a number of methods including infiltration via basins or galleries or by the use of injection wells.

This project uses infiltration galleries to recharge the water.

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Biolytix



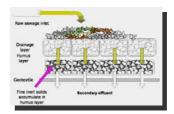
Ashton mine sewerage treatment plant, Hunter Valley, NSW



Macleay Island Biowater Project ,QLD



The global award winning Biolytix Filter



Biolytix NPV/GHD Engineers

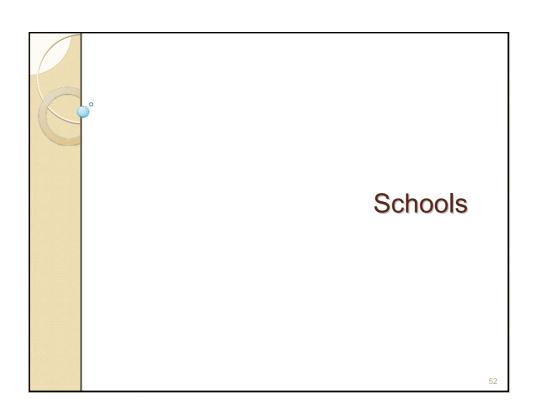
	CGS	MGS	CED	Biowater
Residential site capital	172.5	172.5	202.0	703.0
Reticulation capital	1,147.5	941.7	842.4	375.0
Sewerage treatment capital	602.8	553.0	477.6	0.0
Sewerage infrastructure capital	1,922.8	1,667.2	1,522.0	1,078.0
Treated water storage & irrigation	545.0	467.5	345.0	360.0
Total capital	2,467.8	2,134.7	1,867.0	1,438.0
NPV operating over 20 years	461.9	514.1	522.9	596.7
TOTAL NPV	2,929.7	2,648.8	2,389.9	2,034.6

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CSIRO Study

- A maximum demand of 90,000kl of potable water per person per annum;
- Optimal recycling of water within the urban development having regard for energy requirements and costs for water treatment;
- Aquifer recharge of stormwater and water harvested from households for reuse in greenways, active sporting fields and outdoor use generally within the urban development;
- 。 Identification of ideal locations for aquifer recharge;
- Determination of the suitability of possible greenways within the Tamala Park development for water harvesting, water storage and infrastructure piping to facilitate recycling of harvested water to households;
- Household systems suitable for water recycling;
- Potential re-contouring of the urban development land to assist the outcomes listed in above;
- Preferred locations for a primary and middle school (13 hectares) and active recreation grounds comprising 10 hectares;
- Preferred location for community bores necessary to supplement harvested and recycled water to achieve the target of a maximum 90,000kl of potable water per person; and
- Retention of all waste water within the TPRC development i.e. no piped wastewater (except, possibly, sewerage) offsite.

Water Options - Maintenance - Costs - Financing



Schools

- View location
- Ratio: 1 high 5 primary primary 750 household
- High school 2,500 households



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Schools

- 1/2
- School site requirement
- Primary 4 Hectares
- Primary & Middle 13 hectares
- Primary and High School 19 hectares (2,500)
- 19 hectares is (10 % of Urban Development site)

Implications of School



- Location
- Transit oriented design
- Traffic movements & parking (inc multi use)
- Recreation
- Public Buildings planning (gymnasiums/halls)
- Water Harvesting Water Bores –
 Reticulation
- Viability of East/West Transit system

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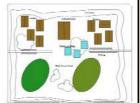
DET Negotiations Summary



- Liaison with DET
- Planning committee review High school requirement
- Prepared to work with TPRC on building design, water, power, solar
- Shared use of buildings & spaces
- Incorporation of greenway and tramway in school precinct design

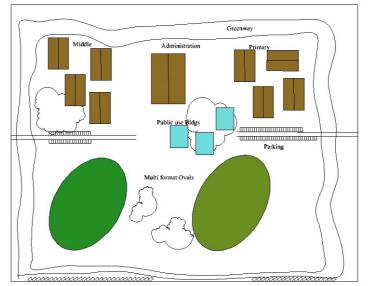
Schools/Reserves Conceptual Issues for Design

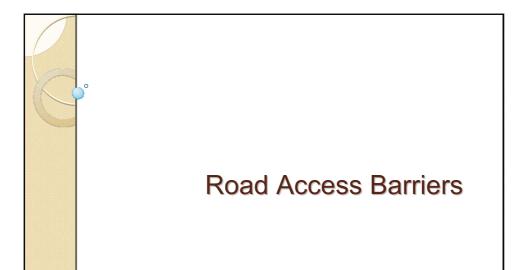
- Concept Plan
- Locate for convenience water harvesting/bore
- Tramway stops at school gates
- Walkways/cycleway greenway locations
- Shared parking
- Buildings location
- Current position



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Schools Concept





Access Barriers

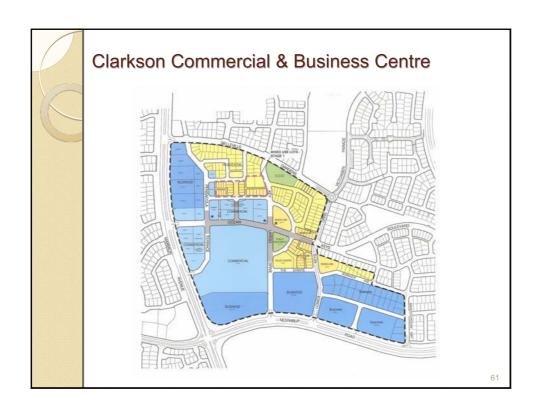
Arterial Roads

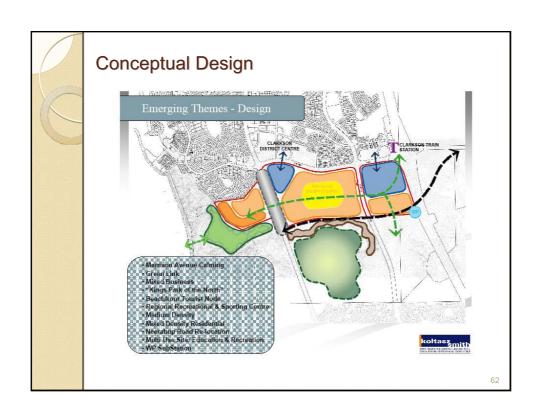
- Marmion Avenue
- Connolly Drive
- Neerabup Road
- Mitchell Freeway

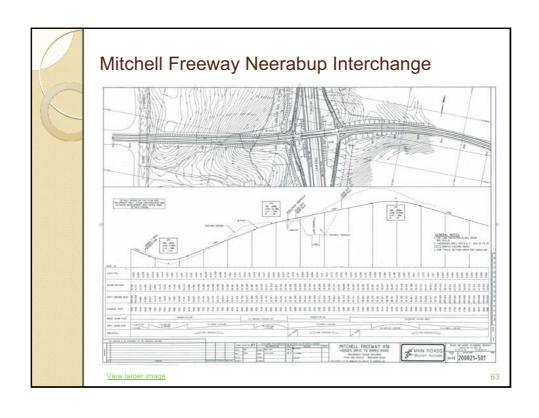
- Vehicle Mobility

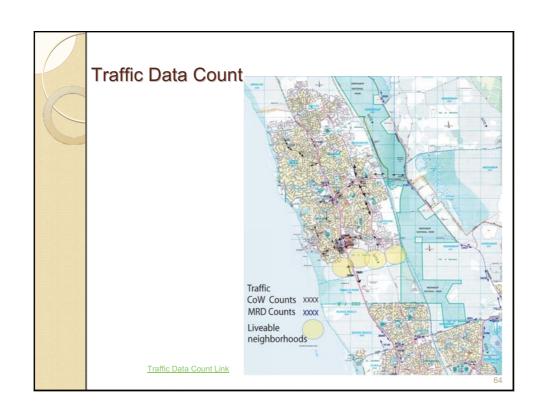
- Local movement barriers
- East/west
- To retail & commercial
- To bus & rail

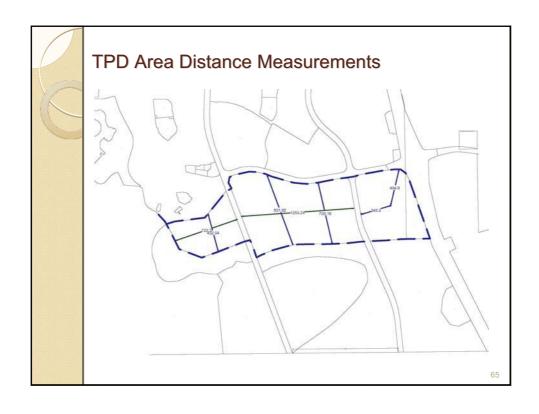
- Heritage site

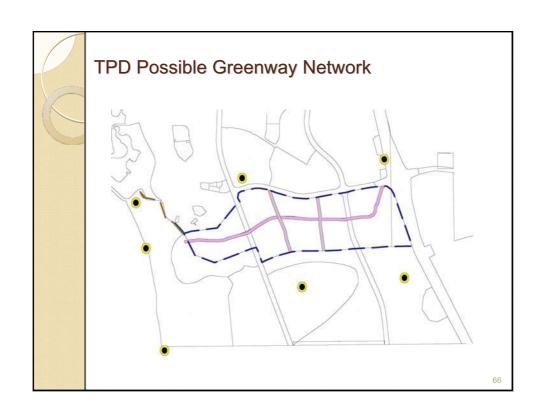


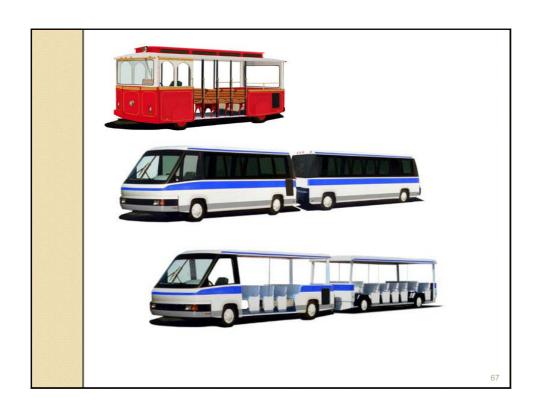














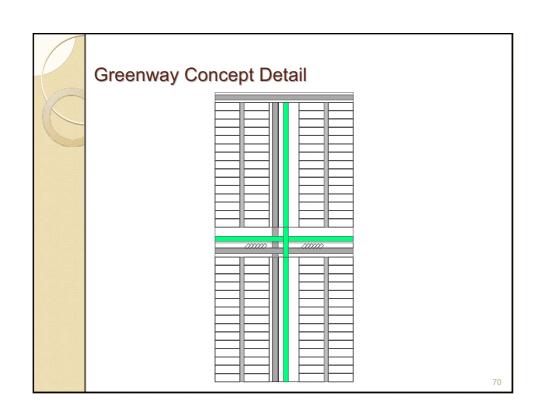
Urban Bike Sharing

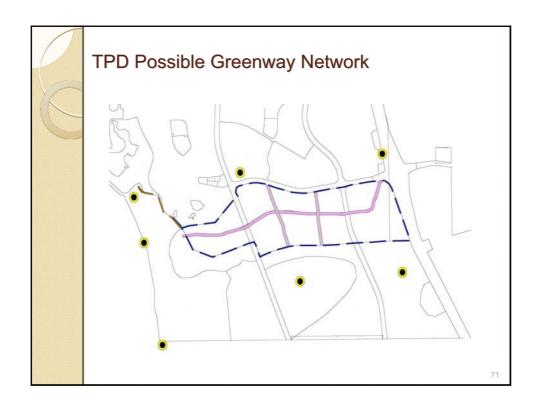


Bike sharing is an optimal method of transportation.

American cities and universities, eager for greener solutions to urban congestion, are rushing to set up bicyclesharing programs similar to those launched in Europe in recent years.

Washington DC will likely be the first in the nation to offer two-wheeled transport at various locations for a nominal fee, under a deal with advertising giant Clear Channel Outdoor.





Base Greenway Data

Base Greenway Data	Linear	Width		space
		Metres		Hectares
East West Greenwy	2742			
Nth Sth (2) greenways 1605	1605	-		
Total Greenway	4347		25	10.868
less Multi Use Sch & Oval	-1200		25	-3.000
	3147			7.868
less normal Road Verge	3147		4.	1.259
Net Greenway Space				6.609
2 Oval Active Space Req'd				10.735
Total Open Space (Exc School)				17.344
POS Required at base 10% Gross Subdy area				180.844
Normal POS @ 10%				18.084
POS Concession				-1.623
			•	16.461
Net POS Requirement				10.461

Aptera



The Aptera is a futuristic car that has generated a lot of buzz lately (and with good reason), the Aperta is a very, very efficient vehicle. The car's head-turning design has a purpose: the shape is highly aerodynamic (much like a jet). It is available for pre-order, and priced at about \$27,000. There will be two models of the Aptera: an all-electric version that goes 120 miles on a charge (for 2008), and a gasoline version that will get 300 mpg (for 2009). The car is also said to be very safe.

Aptera founder and CEO Steve Fambro says sticking your hand out the window of an average car driving 55 mph creates more drag than the Aptera's entire body. Recently, Popular Mechanics, took the Aptera for a test drive. Here's their enthusiastic reaction:

Turn the dial to the "D" position, and the Aptera accelerates like many other pure EVs, with a constant rush of torque. The powertrain pulls strongly up to 50 mph or so (the fastest the streets on our route would allow). Interestingly, when you floor the accelerator, there's a moment when the rearend jacks up slightly as the torque is applied. It's a slight feeling, as it is on some shaft-drive motorcycles — and it's kind of fun. It makes the acceleration feel stronger than it is.







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Constraints to use of the Land

- Flora and Subterranean Flora Study & Management Report
- Neerabup Road Alignment Study/Management Report
- Maintenance of 500m Buffer to the MRC Landfill Operation
- Aboriginal and other Heritage Geology
- Water Regime in the Area
- Hazardous Site Declaration 2007 (Contaminated Sites Legislation)
- Incorporation Government Land Eastern Boundary TPD

MRS 992/33 condition

MRS 992/33 condition

MRS 992/33 condition

