



Department of
Environment and Conservation

Our environment, our future



Strategic Waste Infrastructure Planning Project (SWIPP)

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Project Aims

- Future waste management infrastructure needs (to cater for growing population and meet the landfill diversion targets of the Waste Strategy).
- Provide an interface between DEC and DoP.
- Explore ways to integrate waste management into the land use planning processes of the DoP and WAPC.
- Contribute to and support the Waste Authority's Strategic Waste Infrastructure Planning Committee (SWIPC).



Scenario Modelling

Hyder Consulting engaged to do scenario modeling:

- Investigating a range of infrastructure combinations that could meet the diversion targets of the Waste Strategy.
- 2015, 2020 and approx. 2050 (Perth and Peel population of 3.5 million).
- MSW, C&I and C&D waste streams.



Estimating Land Requirements

Investigation of the effect that different types of waste management technologies have on estimated land requirements.

Scenarios that meet the 2020 targets of the Waste Strategy and enable this rate of landfill diversion to continue to 2050 (plus 'business as usual'):

- **1:** 'business as usual' for all waste streams
- **6B:** MSW and C&I - MRF's and/or aerobic digestion facilities
C&D - increased mixed waste processing
- **8B:** MSW and C&I - MRF's and/or energy from waste facilities
C&D - increased mixed waste processing
- **9:** MSW, C&I, combustible C&D - MRF's and/or energy from waste; C&D - increased mixed waste processing
- **11B:** MSW and C&I - MRF's and/or anaerobic digestion facilities; C&D - increased mixed waste processing



Estimating Land Requirements

Default min. and max site requirements determined for each facility type, based on existing facilities:

Facility	Min. ha per facility	Max. ha per facility
Alternative Waste Treatment (AWT): Energy-from-waste (Thermal)	3ha	10ha
Alternative Waste Treatment (AWT): Aerobic or Anaerobic Digestion	2ha	10ha
Materials Recovery Facility (MRF)	1ha	3ha
'Dirty' Materials Recovery Facility (Dirty MRF)	1ha	3ha
Organics Recyclers	30ha	60ha
C&D Processor	2ha	12ha
Landfill - Inert	12ha	70ha
Recyclers (E-waste , Scrap metal, Paper, Glass, Timber , Plastic)	0.4ha	6ha
Transfer Station (Putrescible, Inert, or Mixed Inert/ Recyclable)	0.1ha	4ha
Drop-off Facilities	1ha	10ha



Estimating Land Requirements

Multiply number of new facilities required by default site size of each facility to get a rough estimate of land requirements:

Scenario	Min. ha 2050	Max. ha 2050
1: Continuation of 'business as usual' for all waste streams (maintains current diversion rates but doesn't meet Waste Strategy targets)	123ha	479ha
6B: MSW and C&I waste processed through MRF's and/or aerobic digestion facilities, increased mixed C&D waste processing	71ha	273ha
8B: MSW and C&I waste processed through MRF's/dirty MRF's and energy from waste facilities, increased mixed C&D waste processing	66ha	214ha
9: MSW, C&I and combustible C&D waste processed through energy from waste facilities, increased mixed C&D waste processing	34ha	148ha
11B: MSW and C&I waste processed through MRF's and/or anaerobic digestion facilities, increased mixed C&D waste processing	71ha	273ha

PLUS 'other' recyclers, transfer stations and drop-off facilities.



Estimating Land Requirements

34ha to 273ha (**approximately**)

- 10's to 100's of hectares of land required to meet Waste Strategy targets (not 1,000's or 10,000's)
- Meeting the Waste Strategy targets potentially more space efficient than not meeting the targets
- Type of technology does not have a great effect on land requirements



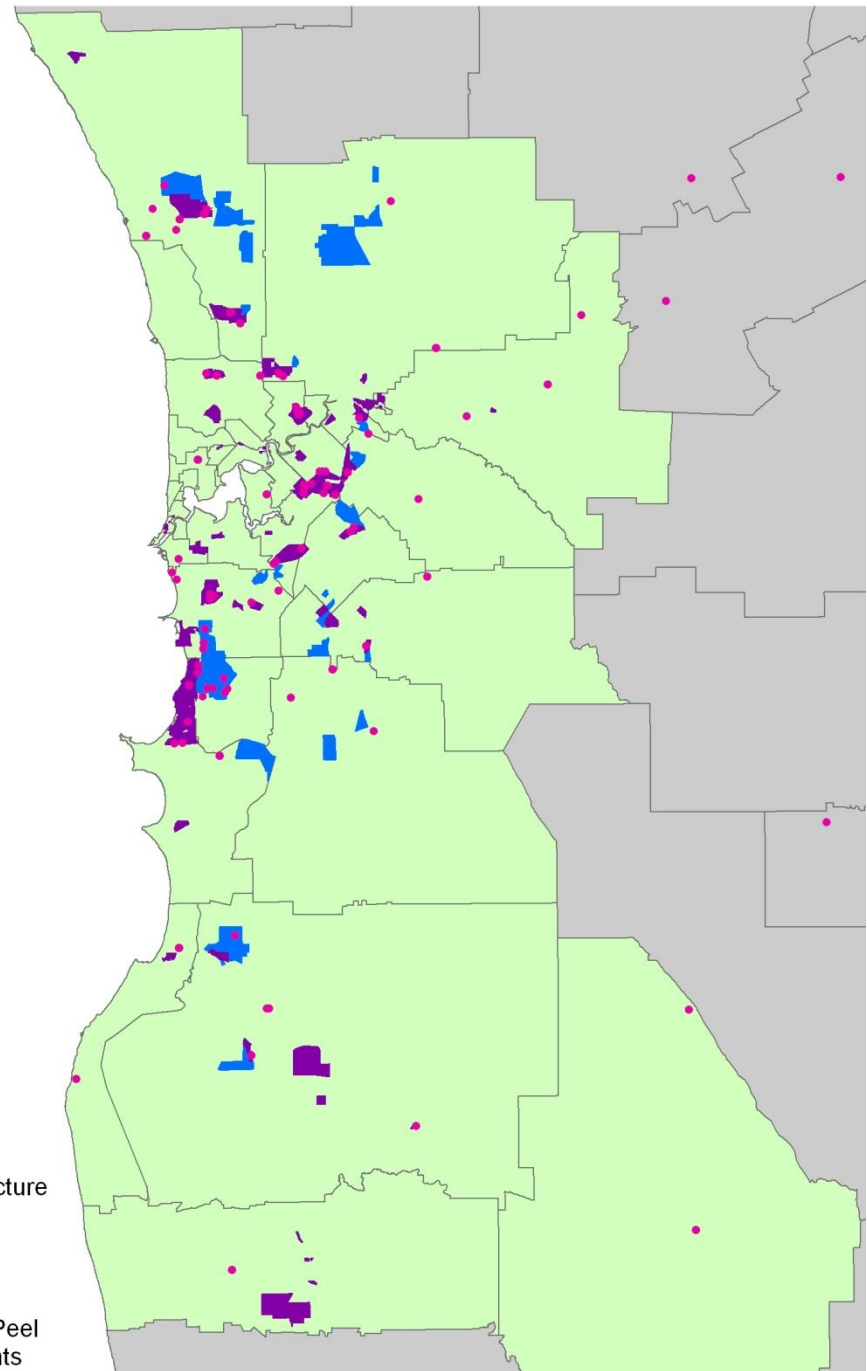
Potentially Suitable Sites for Development of Waste Management Infrastructure

- Zoning (MRS/PRS/GBRS and LPS)
- Access to transport corridors
- Proximity/relationship to existing waste facilities
- Access to waste sources and end points
- Protection from buffer encroachment
- Access to services and utilities
- Potential workforce
- Environmental protection



Potentially Suitable Sites for Development of Waste Management Infrastructure

- Potential industrial sites identified in EELS.
- Existing zoned Industrial sites that have not yet been developed.
- Non-industrial sites.
- Size/arrangement of sites.





What Happens Next?

- Submit background info on estimated land requirements and site characteristics to DoP.
- Ongoing opportunities for input into DoP/WAPC processes.
- Support to the Waste Authority's Strategic Waste Infrastructure Planning Committee.



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