



Pakenham East Precinct Structure Plan  
Design Response options for the  
Transmission Easement

#### Quality Assurance – Report Record

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# 1 Introduction

Cardinia Shire Council engaged SMEC Urban in December 2012 to undertake a review of development options for the land directly affected by the existing Transmission Easement within the Pakenham East Precinct Structure Plan (PEPSP) study area.

## 1.1 Study purpose

The purpose of this work was to:

- Research possible development options for land adjacent to and affected by the Transmission Easement;
- Review current policy guidance in relation to the Transmission Easement and its potential uses; and
- Provide design scenarios for the areas affected by the Transmission Easement to enable a well-considered solution to be determined during future design of the urban structure of the PEPSP.

## 1.2 Study area

The study area is known as the Pakenham East Precinct Structure Plan (PEPSP). It is located to the east of the existing established township, and is bounded by Ryan Road and Deep Creek to the west, an electricity transmission easement and rural properties to the north, Mt Ararat Road to the east and the Princes Freeway to the south.

In particular for this study, the land affected is the land directly inside the northern boundary of the overall study area.



Figure 1: Study Area

## 2 Policy and Guidelines

### 2.1 Easement details

The Transmission Easement is under the control of SP Ausnet. It is approximately 120m in width, and through the study area, contains 6 groups of 4 x 500kV transmission towers. SP Ausnet have produced the document 'A Guide to Living with Transmission Line Easements', which guides what can be done within an easement controlled by SP Ausnet.

### 2.2 A Guide to Living with Transmission Line Easements

This document provides information about the types of easements that SP Ausnet control, and what can and cannot be done in that land, given it is held in private ownership, with an easement entitling SP Ausnet to access the land for maintenance, safety control measures, and sometimes for preservation of land for future additional lines.

Any activities proposed within an easement will require written approval from SP Ausnet. In general, uses within the easement are restricted to ground level activities.

**Permitted** uses include things such as:

- Grazing and agriculture
- Market gardens, orchards and horticultural nurseries
- Dams
- Trees and shrubs that grow no higher than 3m (no trees closer than 20m radius to towers)
- Non-metallic fences up to 3m in height
- Pipeworks of earthenware or plastic materials (no closer than 20m to towers)
- Vehicle parking
- Tennis courts (subject to some specific conditions)
- Ground level sporting facilities such as football fields etc
- Playground equipment (1m maximum height limit)
- Lighting poles (subject to specific conditions).

**Prohibited** uses include:

- Houses and other buildings and structures
- Swimming pools
- Storage of materials in skips and industrial style bins
- Stockpiling of material
- Vehicle repairs and fuelling
- Use of vehicles and equipment exceeding 3m in operating height
- Storage or handling of flammable liquids or gases
- Parking of large trucks/caravans, and loading/unloading of trucks
- Operation of large water spray irrigators of the gun type
- Metal pipes within 30m of any tower steelwork
- Explosives storage.



## 2.3 Examples of usage of easements

There are many examples around metropolitan Melbourne of how areas encumbered by Transmission Easements are utilised for both public and private uses. Some examples include:

- Construction of wetlands and stormwater detention basins (for example, at the Hawkstowe project in Mernda and Lyndarum at Epping);
- Agricultural and horticultural uses (both on a large scale and for hobby farms);
- Sporting fields (Donnelly Recreation Reserve, Cranbourne);
- Car parking (Merinda Park railway station in Cranbourne, and South Morang railway station); and
- Recreational trails.

The above could be considered within Pakenham East, subject to also considering other objectives for the precinct.



Figure 2: Images taken from 'A Guide to Living with Transmission Line Easements' by SP Ausnet



## 3 Possible development scenarios

Given the location of the easement, traversing the northern boundary of the PEPSP study area, it provides a constraint to gaining appropriate development solutions for the small areas of land that sit to the north of the easement within the PEPSP and the current Urban Growth Boundary.

The easement affects 5 land titles as well as Dore Road, and to consider development scenarios, each title should be considered for its individual development potential to ensure that a solution can be achieved for each individual landowner/title, as well as for the area as an integrated solution.

### 3.1 Easement use opportunities

As outlined in section 2.2 above, the easement can be utilised for both public and private land uses, provided the uses fit within the approval and guidelines of SP Ausnet. Any use or development on land affected by the easement will require the approval of SP Ausnet.

#### Public use opportunities

Given the location of the easement in this area, there is the opportunity to utilise it to provide a linear trail linkage between Deep Creek, the hill top (and any potential hilltop reserve that may be created as part of the PEPSP), and the creekline in the eastern half of the study area. The easement width of 120m is a substantial area, and it may not be desirable for Council to take on management of this entire area for a linear trail, so consideration could also be given to utilising part of the easement for other uses (private or public). Nearer to the waterways, another suitable potential use for the easement land could be water quality treatment areas if required in these locations.

#### Private use opportunities

As the easement is in the northern part of the study area, there is the opportunity to utilise the land within the easement as part of larger lots that could be attractive to people desiring a large home with some land around it for hobby farming purposes (ie. a couple of horses, cattle, small scale horticulture etc). Given the undulating topography, and larger rural allotments to the north, this use in between standard residential development and rural land is appropriate, and could provide another market for the PEPSP area to attract.

### 3.2 Development Scenarios

In order to test options for the site, 5 development scenarios have been prepared, to indicate possible alternatives for development of land adjacent to the Transmission Easement. The 5 options explored are:

1. Full development
2. Linear Trail Network
3. Public use of easement
4. No development north of easement
5. Rural lots.

The options are included as **Attachment 1** to this report. All of the options provide each of the titles affected by the easement with the ability to develop their land to varying degrees, depending on the specific circumstances of the property boundaries and easement location.

**Attachment 2** includes a preliminary land budget which details a full breakdown of developable land areas and potential site yields per property for each of the development scenarios, as well as an overall summary for the 4 properties affected. This has been prepared based on average lot size estimates, based on the sketch plans included in Attachment 1. Given the topography and the location, the lot typologies/ densities utilised in the plans and land budget are:

- Rural living (2.0 ha average lot size);
- Lower density lots (1500m<sup>2</sup> average lot size); and
- Standard residential (800m<sup>2</sup> average lot size).

### Option 1: Full development

The full development scenario presented considers the retention of the easement within private property (other than where affected by another use such as the creek), through the use of larger lots with buildable areas retained outside the easement. Depending on specific circumstances and the market at the time of development, these lot sizes could be adapted to be smaller or larger.

The full development scenario considers development of all of the land on the northern side of the easement, which would include a road for access across the hilltop to provide connectivity from west to east through this area. The only area north of the easement that would not be able to be developed into lower density style allotments is the eastern extent, given the limited width of land contained within the development area between the UGB and the easement. This concept could also be adapted to include a hilltop reserve if that was the desired outcome.

#### Option 1: Summary Development Analysis

Net Residential Area	32.84 ha
Lot Yield Estimate (total)	106
Public Open Space area	4.97 ha
Length of proposed new roads	1704 lin m
Length of proposed linear trail	0 m

### Option 2: Linear Trail Network

This option presents the concept of utilising part of the Electricity Transmission easement land (50-60m width) along its southern boundary as a linear trail connection linking the Deep Creek corridor to the hilltop reserve and the eastern creek corridor. This would provide a network of pedestrian and cycling trails throughout the northern part of the PEPSP, using land that may otherwise be underutilised. The trail network also allows for the majority of the overhead towers to be retained in land within public ownership, ensuring maintenance accessibility is readily available.

The remainder of the easement is suggested to be utilised for a small number of larger 'hobby farm' style allotments. These lots would have an adequate area outside of the easement available for construction of a dwelling, with the land affected by the easement being available for uses such as those outlined in Section 2.2 of this report.

It may also be appropriate to consider introducing some design guidelines on these allotments to ensure that land is suitably utilised, and that the interface between these lots and the linear trail part of the easement is managed appropriately through consistent fencing and maintenance management.

#### Option 2: Summary Development Analysis

Net Residential Area	25.34 ha
Lot Yield Estimate (total)	88
Public Open Space area	15.98 ha
Length of proposed new roads	1437 lin m
Length of proposed linear trail	1639 lin m

### Option 3: Public use of easement

Option 3 designates the majority of the easement as public space, providing a linear link between the creek corridors, and also to the potential hilltop reserve. This option continues public access eastward to Mount Ararat South Road, providing additional public open space plus a link to future possible linear trail development within the easement beyond the current PEPSP boundary. .

Development for lower density residential is still considered to the north of the easement, in pockets that retain the hilltop park.



## Option 3: Summary Development Analysis

Net Residential Area	11.56 ha
Lot Yield Estimate (total)	88
Public Open Space area	27.87 ha
Length of proposed new roads	1395 lin m
Length of proposed linear trail	2215 lin m

## Option 4: No development north of easement

This option utilises the transmission easement as the northern limits of development. Given the limited opportunities for development north of the easement, it may be considered appropriate that the land within and north of the easement should not be developed for residential purposes, but maintained as a rural/rural living area given it will be relatively removed from the remaining area of the PEPSP and its services.

The implications of this option are that the western most title (Property 1) cannot be developed at all, given it is wholly contained within the easement, or north of it. Property 2 also is not able to be developed, assuming that the Hilltop Park is a priority for Council to achieve.

## Option 4: Summary Development Analysis

Net Residential Area	3.17 ha
Lot Yield Estimate (total)	40
Public Open Space area	2.65 ha
Length of proposed new roads	403 lin m
Length of proposed linear trail	0 lin m

## Option 5: Rural lots

Option 5 allows development of lots within and north of the easement to an average size of approximately 2.0ha, and provides a consistent approach to the easement along its length through the PSP area. This option creates new roads north of the easement, to allow for development of such interface lots.

## Option 5: Summary Development Analysis

Net Residential Area	36.96 ha
Lot Yield Estimate (total)	33
Public Open Space area	3.96 ha
Length of proposed new roads	1410 lin m
Length of proposed linear trail	0 lin m

### 3.3 Assessment of development scenarios

All of the five development scenarios presented have merit, and should be considered in conjunction with the overall planning of the PEPSP area. The most appropriate solution for the area will be influenced by the outcomes of planning for the remainder of the PEPSP area.

In terms of maximising developable land, Option 1 provides the best outcome.

If considering the best public access solution, Option 3 provides the most land for public use. This option also provides a connection to any potential future trail development along the easement beyond the PEPSP boundary.

Option 2 provides a balanced approach to public and private use of the easement.

Option 4 utilises the easement to set the northern edge to development, rather than assuming that the line of the UGB dictates the development edge.

Option 5 provides a rural living transitional approach to the interface between rural land to the north and the development of the PEPSP to the south.

In terms of developable land and lot yields, the summary contained in Attachment 2, and briefly outlined above for each option, provides a clear indication of potential yields and requirements for infrastructure (roads and linear trail/ open space development). A snapshot comparing the options is outlined below:

	Option 1	Option 2	Option 3	Option 4	Option 5
Net Residential Area	32.84 ha	25.34 ha	11.56 ha	3.17 ha	36.96 ha
Lot Yield Estimate (total)	106	88	88	40	33
Public Open Space area	4.97 ha	15.98 ha	27.87 ha	2.65 ha	3.96 ha
Length of proposed new roads	1704 lin m	1437 lin m	1395 lin m	403 lin m	1410 lin m
Length of proposed linear trail	0 m	1639 lin m	2215 lin m	0 lin m	0 lin m

In terms of development lot yields, options 2 and 3 provide a comparable potential overall yield of 88 lots, with the significant difference being whether there is a large area of land provided as public open space under the easement, or retained as partially private and part public.

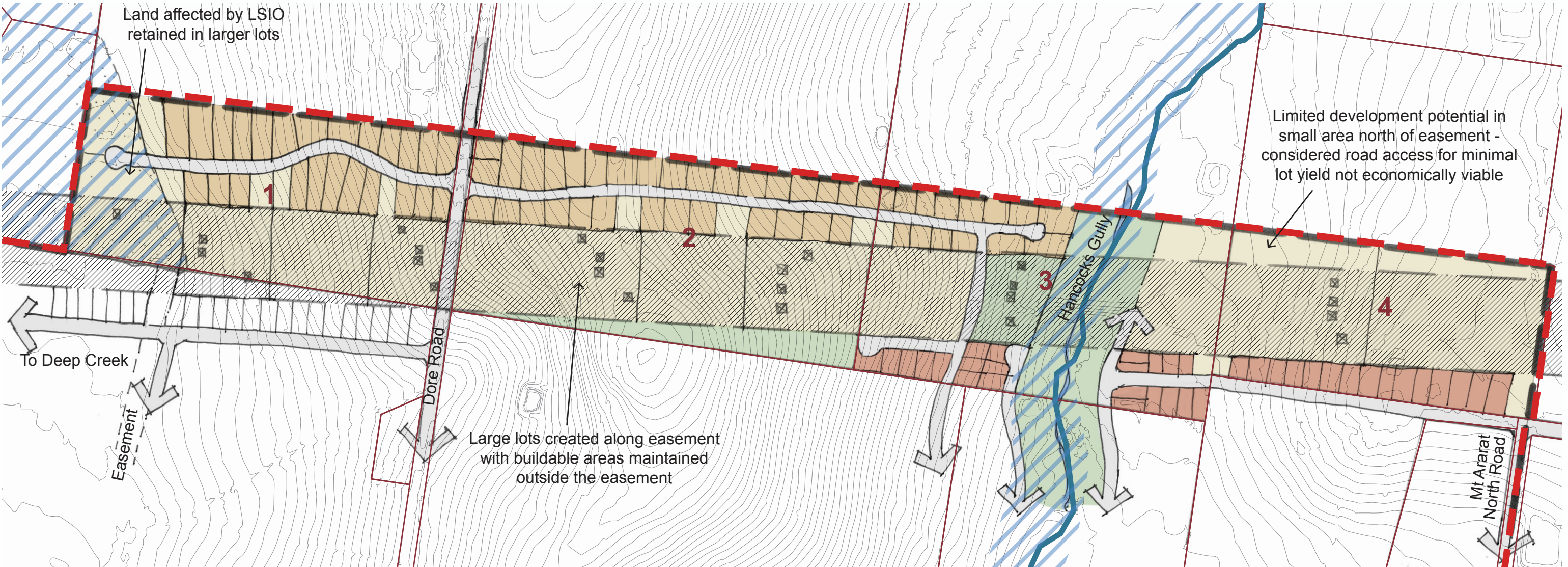
Options 4 and 5 provide a comparable potential overall yield, the major differences being that Option 4 provides no development potential for properties 1 and 2, whereas Option 5 provides a consistent approach for development across the 4 properties. The major issue in implementing Option 5 - is the significant amount of road construction that will be required to service the 2.0ha lots.

## 4 Conclusion

There are varied opportunities for development within and along the transmission easement through the PEPSP. The eventual preferred solution should be determined in conjunction with the overall design response to land to the south of the transmission easement, as there are many other factors that will influence the best solution for the land affected by the easement. Each design response option in this report presents different combinations of development and open space, each of which has differing impacts on lot yield and required infrastructure investment. The eventual design solution will likely require combining elements from multiple scenarios.

## 5 Attachment

1. Transmission Easement Development Scenarios
2. Development Analysis Summaries



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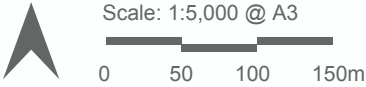
- Pakeham East PSP Boundary
- Transmission Easement
- Transmission Towers
- Property Boundaries
- Land subject to Inundation (LSIO)
- Suggested Road Network
- Lots in Transmission Easement (2ha)
- Lower Density Lots (1500m<sup>2</sup>++)
- Standard Density Lots (800 - 1500m<sup>2</sup>++)
- Linear Open Space
- Contours (1m intervals)

Note:  
These plans are indicative only, and the lot layout shown is conceptual and based on preliminary site information only.  
For detailed yield estimates, the development analysis tables accompanying these plans should be relied upon rather than the sketch lot layout shown.

Transmission Easement Development Scenario: Sketch Option 1 - Full Development  
Pakenham East Precinct Structure Plan



Revision	Date	Description	Checked
B	4/02/13	Adding more Lower Density Lots, and Hilltop Park area	DS/MH / 4/02/13
A	21/01/13	Transmission Easement Development Option 1	MH / 21/01/13

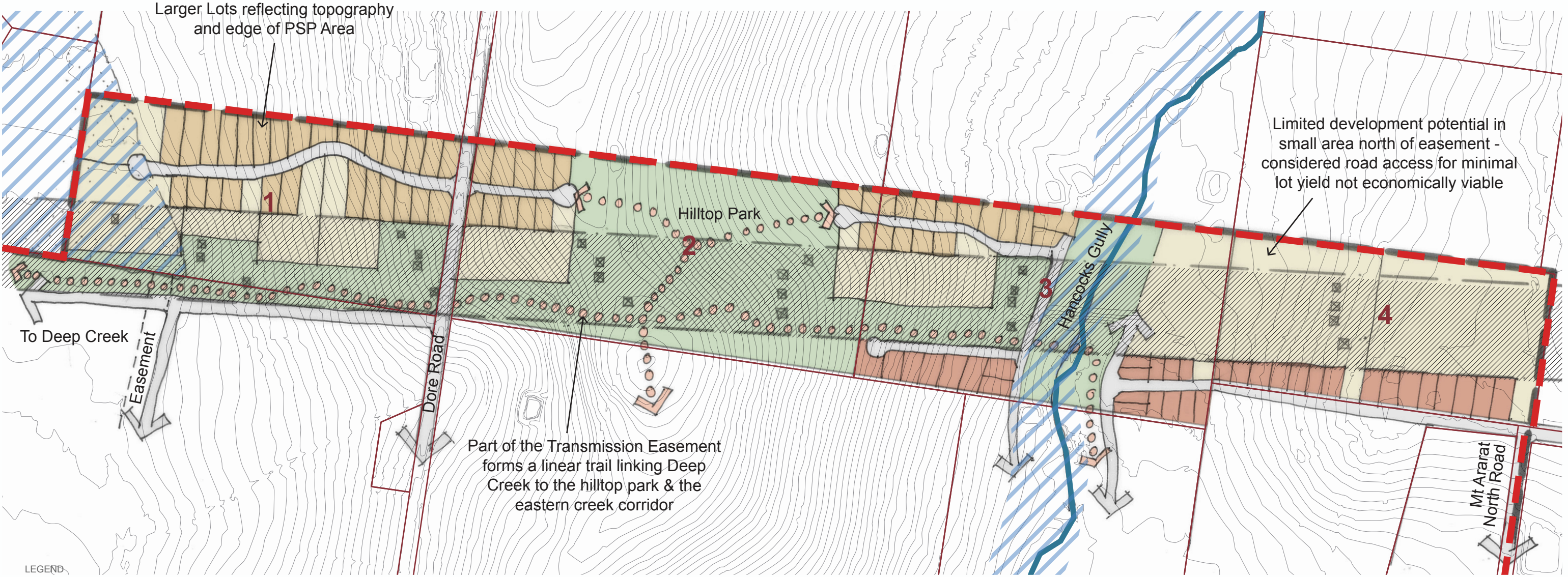


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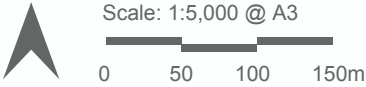
- LEGEND
- Pakeham East PSP Boundary
  - Transmission Easement
  - Transmission Towers
  - Property Boundaries
  - Land subject to Inundation (LSIO)
  - Suggested Road Network
  - Lots in Transmission Easement (2ha)
  - Lower Density Lots (1500m<sup>2</sup>+)
  - Standard Density Lots (800 - 1500m<sup>2</sup>+)
  - Trail Network
  - Linear Open Space
  - Contours (1m intervals)

Note:  
These plans are indicative only, and the lot layout shown is conceptual and based on preliminary site information only.  
For detailed yield estimates, the development analysis tables accompanying these plans should be relied upon rather than the sketch lot layout shown.

Transmission Easement Development Scenario: Sketch Option 2 - Linear Trail Network  
Pakenham East Precinct Structure Plan



Revision	Date	Description	Checked
B	4/02/13	Transmission Easement Development Option 2	DS/MH / 4/02/13

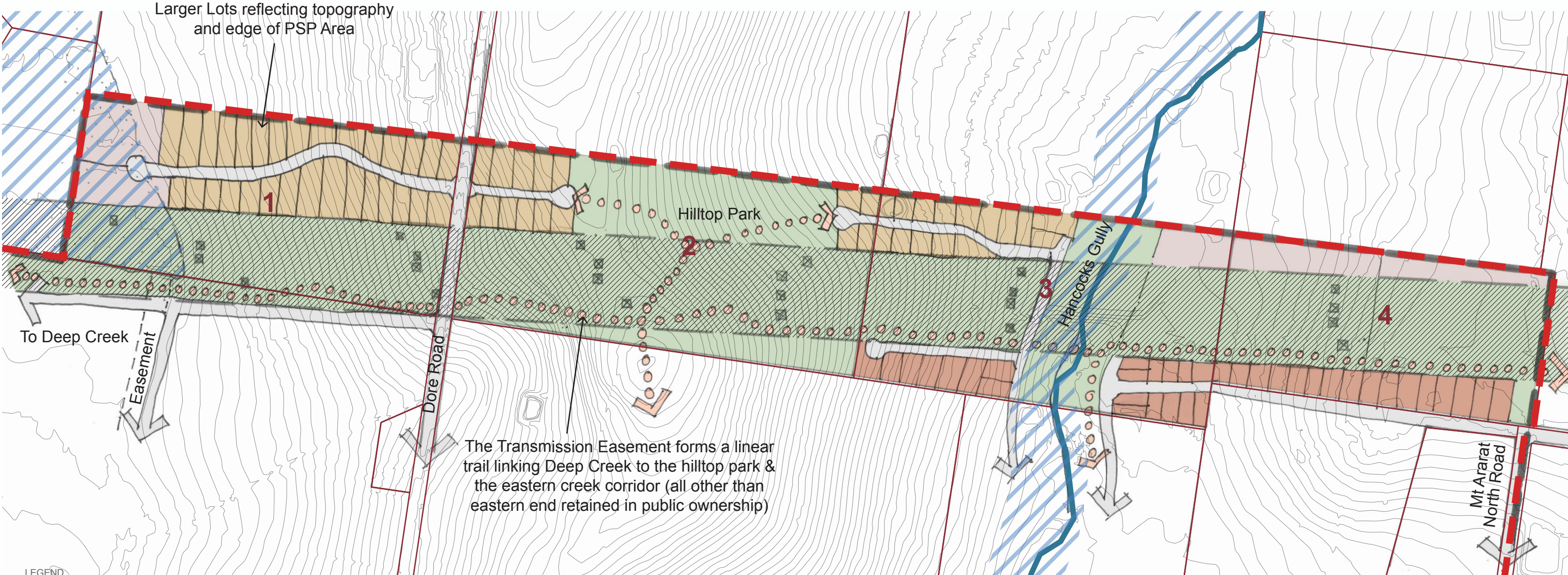


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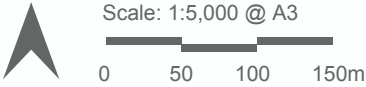
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- Pakeham East PSP Boundary
- Transmission Easement
- Transmission Towers
- Property Boundaries
- Land subject to Inundation (LSIO)
- Suggested Road Network
- Rural Living Lots / Rural Lots
- Lower Density Lots (1500m<sup>2</sup>+)
- Standard Density Lots (800 - 1500m<sup>2</sup>+)
- Trail Network
- Linear Open Space
- Contours (1m intervals)

Note:  
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Transmission Easement Development Scenario: Sketch Option 3 - Public Use of Easement  
Pakenham East Precinct Structure Plan

Revision	Date	Description	Checked
B	4/02/13	Removal of Lots within Transmission Easement, changing surrounding to Rural Lots	MH/DS / 4/02/13
A	21/01/13	Transmission Easement Development Option 3	MH/ 21/01/13



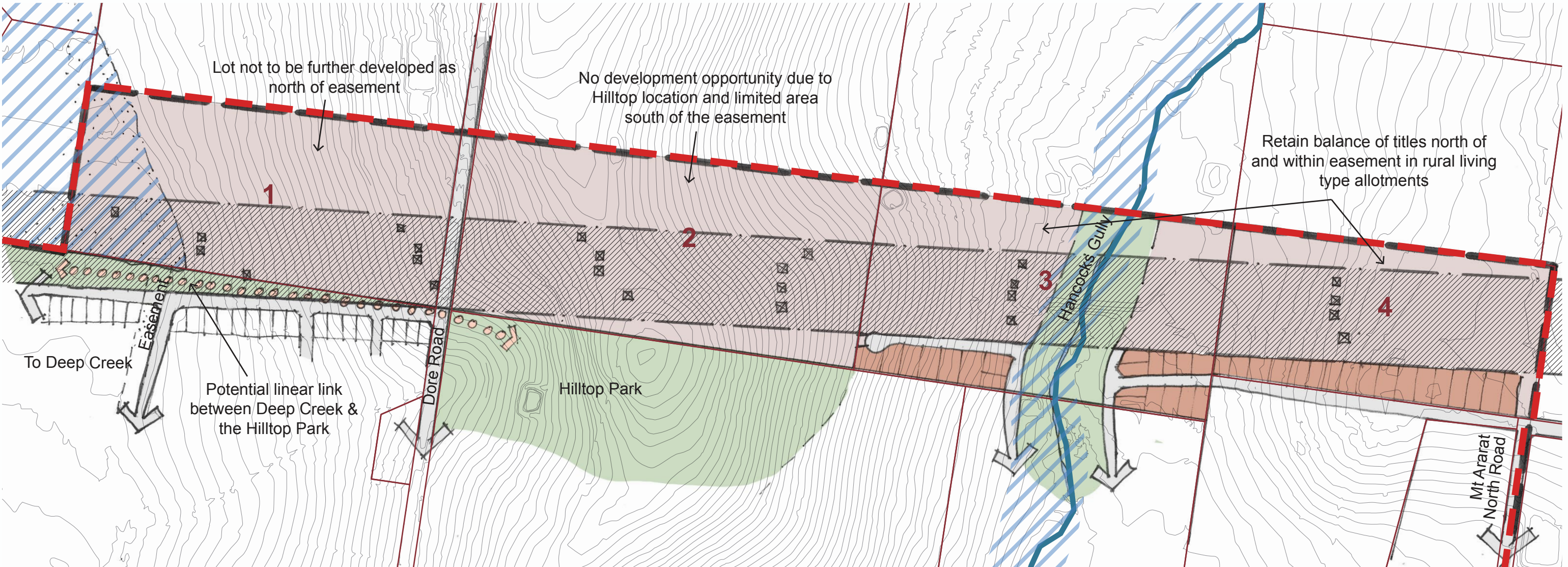
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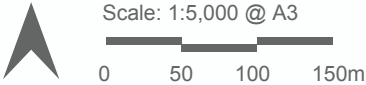
- Pakeham East PSP Boundary
- Transmission Easement
- Transmission Towers
- Property Boundaries
- Land subject to Inundation (LSIO)
- Suggested Road Network
- Rural Living Lots
- Standard Density Lots (800 - 1500m<sup>2</sup>+)
- Trail Network
- Open Space
- Contours (1m intervals)

Note:  
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Transmission Easement Development Scenario: Sketch Option 4 - No Development North of Easement  
Pakenham East Precinct Structure Plan



Revision	Date	Description	Checked
C	4/03/13	Rural Living Lots Colour change	DS/MH / 4/03/13
B	4/02/13	Transmission Easement Development Option 4	DS/MH / 4/02/13

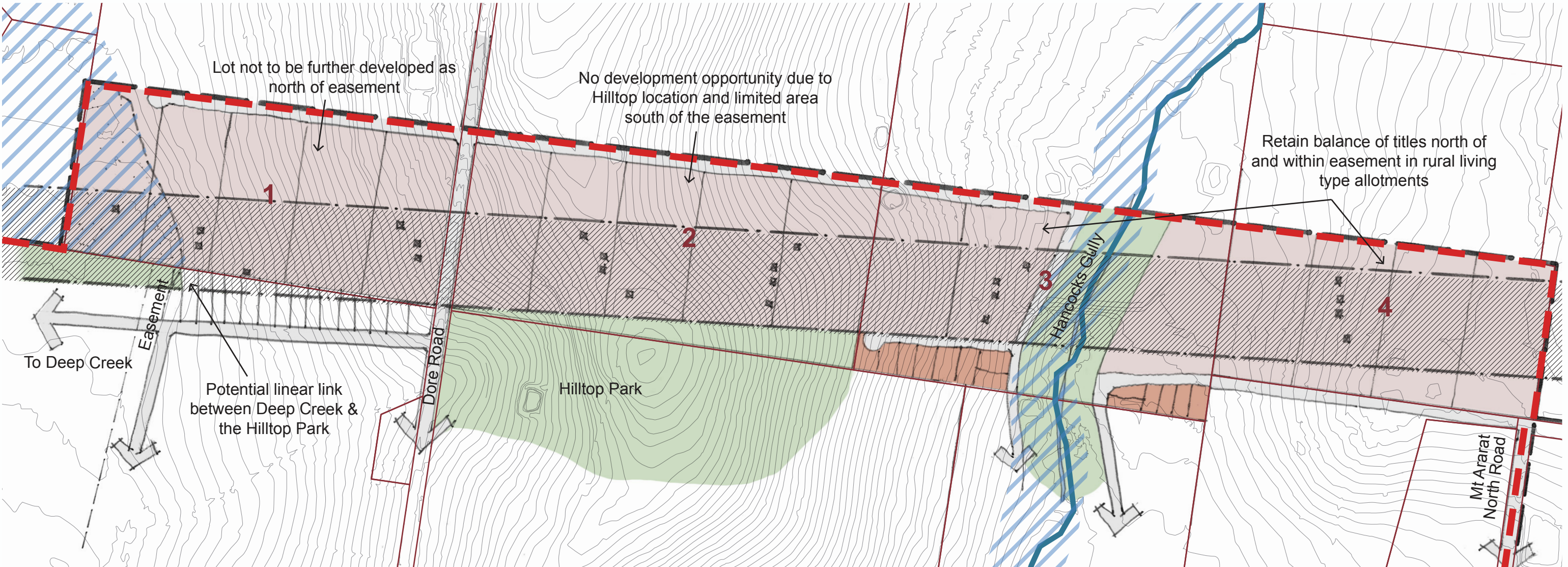


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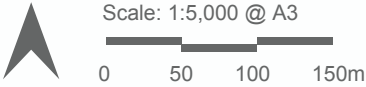
- Pakeham East PSP Boundary
- Transmission Easement
- Transmission Towers
- Property Boundaries
- Land subject to Inundation (LSIO)
- Suggested Road Network
- Rural Living Lots
- Lower Density Lots (1500m<sup>2</sup>+)
- Standard Density Lots (800 - 1500m<sup>2</sup>+)
- Open Space
- Contours (1m intervals)

Note:  
These plans are indicative only, and the lot layout shown is conceptual and based on preliminary site information only.  
For detailed yield estimates, the development analysis tables accompanying these plans should be relied upon rather than the sketch lot layout shown.

Transmission Easement Development Scenario: Sketch Option 5 - Rural Lots  
Pakenham East Precinct Structure Plan



Revision	Date	Description	Checked
A	4/02/13	Transmission Easement Development Option 5	DS/MH / 4/02/13



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Development Analysis: Transmission Easement Development Scenario: Sketch Option 1 - Full Development															
	Property 1			Property 2			Property 3			Property 4			Overall		
130204 / RevA	%TSA			%TSA			%TSA			%TSA			%TSA		
Total Site Area	11.01 ha			12.71 ha			11.59 ha			8.42 ha			43.73 ha		
Area within Transmission easement	4.91 ha			6.47 ha			5.68 ha			5.26 ha			22.32 ha		
Encumbered Land	0.00 ha0%			0.00 ha0%			0.00 ha0%			0.00 ha0%			0.00 ha0%		
Non developable	0.00 ha			0.00 ha			0.00 ha			0.00 ha			0.00		
Gross Developable Area	11.01 ha %GDA			12.71 ha %GDA			11.59 ha %GDA			8.42 ha %GDA			43.73 ha %GDA		
Public Open Space	0.00 ha0%			1.31 ha10%			3.66 ha32%			0.00 ha0%			4.97 ha11%		
Passive Open Space	0.00 ha0%			1.31 ha10%			3.66 ha32%			0.00 ha0%			4.97 ha11%		
Net Developable Area	11.01 ha %GDA %NDA			11.40 ha %GDA %NDA			7.93 ha %GDA %NDA			8.42 ha %GDA %NDA			38.76 ha %GDA %NDA		
Roads	0.76 ha7%7%			0.86 ha7%8%			1.31 ha11%17%			0.00 ha0%0%			2.93 ha7%8%		
Local & Connector Streets	0.76 ha			0.86 ha			1.31 ha			0.00 ha			2.93 ha		
Net Residential Area	10.25 ha93%93%			10.54 ha83%92%			6.62 ha57%83%			8.42 ha100%100%			35.83 ha82%92%		
Lots in Transmission easement	6.67 ha			6.80 ha			3.72 ha			6.98 ha			24.17 ha		
Lower Density Housing	3.58 ha			3.74 ha			1.35 ha			0.00 ha			8.67 ha		
Standard Density Housing	0.00 ha			0.00 ha			1.55 ha			1.44 ha			2.99 ha		
Lot Yield Estimate															
Lots in Transmission easement	Ave. lot size (ha) 3 lots2.00			Ave. lot size (ha) 3 lots2.00			Ave. lot size (ha) 2 lots2.00			Ave. lot size (ha) 3 lots2.00			Ave. lot size (ha) 11 lots2.00		
	Ave. lot size (m²)			Ave. lot size (m²)			Ave. lot size (m²)			Ave. lot size (m²)			Ave. lot size (m²)		
Lower Density Housing	24 lots1500			25 lots1500			9 lots1500			0 lots1500			58 lots1500		
Standard Density Housing	0 lots800			0 lots800			19 lots800			18 lots800			37 lots800		
Total Lots	27 lots			28 lots			30 lots			21 lots			106 lots		
Length of proposed linear trails	0 lm			0 lm			0 lm			0 lm			0 lm		
Length of proposed new roads	445 lm			533 lm			726 lm			0 lm			1704 lm		

Development Analysis: Transmission Easement Development Scenario: Sketch Option 2 - Linear Trail Network															
	Property 1			Property 2			Property 3			Property 4			Overall		
130204 / RevA	%TSA			%TSA			%TSA			%TSA			%TSA		
Total Site Area	11.01 ha			12.71 ha			11.59 ha			8.42 ha			43.73 ha		
Area within Transmission easement	4.91 ha			6.47 ha			5.68 ha			5.26 ha			22.32 ha		
Encumbered Land	0.00 ha0%			0.00 ha0%			0.00 ha0%			0.00 ha0%			0.00 ha0%		
Non developable	0.00 ha			0.00 ha			0.00 ha			0.00 ha			0.00 ha		
Gross Developable Area	11.01 ha %GDA			12.71 ha %GDA			11.59 ha %GDA			8.42 ha %GDA			43.73 ha %GDA		
Public Open Space	2.44 ha22%			9.48 ha75%			4.06 ha35%			0.00 ha0%			15.98 ha37%		
Passive Open Space	2.44 ha22%			9.48 ha75%			4.06 ha35%			0.00 ha0%			15.98 ha37%		
Net Developable Area	8.57 ha %GDA %NDA			3.23 ha %GDA %NDA			7.53 ha %GDA %NDA			8.42 ha %GDA %NDA			27.75 ha %GDA %NDA		
Roads	0.76 ha7%9%			0.34 ha3%11%			1.31 ha11%17%			0.00 ha0%0%			2.41 ha6%9%		
Local & Connector Streets	0.76 ha			0.34 ha			1.31 ha			0.00 ha			2.41 ha		
Net Residential Area	7.81 ha71%91%			2.89 ha23%89%			6.22 ha54%83%			8.42 ha100%100%			25.34 ha58%91%		
Lots in Transmission easement	4.31 ha			1.60 ha			3.34 ha			7.01 ha			16.26 ha		
Lower Density Housing	3.50 ha			1.29 ha			1.30 ha			0.00 ha			6.09 ha		
Standard Density Housing	0.00 ha			0.00 ha			1.58 ha			1.41 ha			2.99 ha		
Lot Yield Estimate															
Lots in Transmission easement	Ave. lot size (ha) 2 lots2.00			Ave. lot size (ha) 1 lots2.00			Ave. lot size (ha) 2 lots2.00			Ave. lot size (ha) 4 lots2.00			Ave. lot size (ha) 9 lots2.00		
	Ave. lot size (m²)			Ave. lot size (m²)			Ave. lot size (m²)			Ave. lot size (m²)			Ave. lot size (m²)		
Lower Density Housing	23 lots1500			9 lots1500			9 lots1500			0 lots1500			41 lots1500		
Standard Density Housing	0 lots800			0 lots800			20 lots800			18 lots800			38 lots800		
Total Lots	25 lots			10 lots			31 lots			22 lots			88 lots		
Length of proposed linear trails	204 lm			1050 lm			385 lm			0 lm			1639 lm		
Length of proposed new roads	454 lm			155 lm			828 lm			0 lm			1437 lm		



Development Analysis: Transmission Easement Development Scenario: Sketch Option 3 - Public Use of Easement													
130204 / RevA	Property 1			Property 2			Property 3			Property 4		Overall	
	%TSA			%TSA			%TSA			%TSA		%TSA	
Total Site Area	11.01 ha			12.71 ha			11.59 ha			8.42 ha		43.73 ha	
Area within Transmission easement	4.91 ha			6.47 ha			5.68 ha			5.26 ha		22.32 ha	
Encumbered Land	0.00 ha0%			0.00 ha0%			0.46 ha4%			1.50 ha18%		1.96 ha4%	
Non developable	0.00 ha			0.00 ha			0.46 ha			1.50 ha		1.96 ha	
Gross Developable Area	11.01 ha %GDA			12.71 ha %GDA			11.13 ha %GDA			6.92 ha %GDA		41.77 ha %GDA	
Public Open Space	4.91 ha45%			10.89 ha86%			6.79 ha61%			5.26 ha76%		27.85 ha67%	
Passive Open Space	4.91 ha45%			10.89 ha86%			6.79 ha61%			5.26 ha76%		27.85 ha67%	
Net Developable Area	6.10 ha %GDA %NDA			1.82 ha %GDA %NDA			4.34 ha %GDA %NDA			1.66 ha %GDA %NDA		13.92 ha %GDA %NDA	
Roads	0.71 ha6%12%			0.34 ha3%19%			1.31 ha12%30%			0.00 ha0%0%		2.36 ha6%17%	
Local & Connector Streets	0.71 ha			0.34 ha			1.31 ha			0.00 ha		2.36 ha	
Net Residential Area	5.39 ha49%88%			1.48 ha12%81%			3.03 ha27%70%			1.66 ha24%100%		11.56 ha28%83%	
Lots in Transmission easement / Flood Overlay	1.41 ha			0.00 ha			0.00 ha			0.00 ha		1.41 ha	
Lower Density Housing	3.98 ha			1.48 ha			1.39 ha			0.00 ha		6.85 ha	
Standard Density Housing	0.00 ha			0.00 ha			1.64 ha			1.66 ha		3.30 ha	
Lot Yield Estimate													
Lots in Transmission easement / Flood Overlay	Ave. lot size (ha) 1 lots2.00			Ave. lot size (ha) 0 lots2.00			Ave. lot size (ha) 0 lots2.00			Ave. lot size (ha) 0 lots2.00		Ave. lot size (ha) 1 lots2.00	
	Ave. lot size (m²)			Ave. lot size (m²)			Ave. lot size (m²)			Ave. lot size (m²)		Ave. lot size (m²)	
Lower Density Housing	27 lots1500			10 lots1500			9 lots1500			0 lots1500		46 lots1500	
Standard Density Housing	0 lots800			0 lots800			21 lots800			20 lots800		41 lots800	
Total Lots	28 lots			10 lots			30 lots			20 lots		88 lots	
Length of proposed linear trails	204 lm			1050 lm			532 lm			429 lm		2215 lm	
Length of proposed new roads	412 lm			155 lm			828 lm			0 lm		1395 lm	

Development Analysis: Transmission Easement Development Scenario: Sketch Option 4 - No Development north of easement													
	Property 1			Property 2			Property 3			Property 4		Overall	
130204 / RevA	%TSA			%TSA			%TSA			%TSA		%TSA	
Total Site Area	11.01 ha			12.71 ha			11.59 ha			8.42 ha		43.73 ha	
Area within Transmission easement	4.91 ha			6.47 ha			5.68 ha			5.26 ha		22.32 ha	
Encumbered Land	11.01 ha 100%			12.71 ha 100%			6.61 ha 57%			6.89 ha 82%		37.22 ha 85%	
Non developable (rural land)	11.01 ha			12.71 ha			6.61 ha			6.89 ha		37.22 ha	
Gross Developable Area	0.00 ha %GDA			0.00 ha %GDA			4.98 ha %GDA			1.53 ha %GDA		6.51 ha %GDA	
Public Open Space	0.00 ha 0%			0.00 ha 0%			2.65 ha 53%			0.00 ha 0%		2.65 ha 41%	
Passive Open Space	0.00 ha 0%			0.00 ha 0%			2.65 ha 53%			0.00 ha 0%		2.65 ha 41%	
Net Developable Area	0.00 ha %GDA %NDA			0.00 ha %GDA %NDA			2.33 ha %GDA %NDA			1.53 ha %GDA %NDA		3.86 ha %GDA %NDA	
Roads	0.00 ha 0% 0%			0.00 ha 0% 0%			0.69 ha 14% 30%			0.00 ha 0% 0%		0.69 ha 11% 18%	
Local & Connector Streets	0.00 ha			0.00 ha			0.69 ha			0.00 ha		0.69 ha	
Net Residential Area	0.00 ha 0% 0%			0.00 ha 0% 0%			1.64 ha 33% 70%			1.53 ha 100% 100%		3.17 ha 49% 82%	
Lots in Transmission easement	0.00 ha			0.00 ha			0.00 ha			0.00 ha		0.00 ha	
Lower Density Housing	0.00 ha			0.00 ha			0.00 ha			0.00 ha		0.00 ha	
Standard Density Housing	0.00 ha			0.00 ha			1.64 ha			1.53 ha		3.17 ha	
Lot Yield Estimate													
Lots in Transmission easement	Ave. lot size (ha) 0 lots 2.00			Ave. lot size (ha) 0 lots 2.00			Ave. lot size (ha) 0 lots 2.00			Ave. lot size (ha) 0 lots 2.00		Ave. lot size (ha) 0 lots 2.00	
	Ave. lot size (m²)			Ave. lot size (m²)			Ave. lot size (m²)			Ave. lot size (m²)		Ave. lot size (m²)	
Lower Density Housing	0 lots 1500			0 lots 1500			0 lots 1500			0 lots 1500		0 lots 1500	
Standard Density Housing	0 lots 800			0 lots 800			21 lots 800			19 lots 800		40 lots 800	
Total Lots	0 lots			0 lots			21 lots			19 lots		40 lots	
Length of proposed linear trails	0 lm			0 lm			0 lm			0 lm		0 lm	
Length of proposed new roads	0 lm			0 lm			403 lm			0 lm		403 lm	

Development Analysis: Transmission Easement Development Scenario: Sketch Option 5 - Rural lots									
	Property 1			Property 2			Property 3		
130204 / RevA	%TSA			%TSA			%TSA		
Total Site Area	11.01 ha			12.71 ha			11.59 ha		
Area within Transmission easement	4.91 ha			6.47 ha			5.68 ha		
Encumbered Land	0.00 ha			0.00 ha			0.00 ha		
Non developable	0.00 ha			0.00 ha			0.00 ha		
Gross Developable Area	11.01 ha			12.71 ha			11.59 ha		
Public Open Space	0.00 ha			1.31 ha			2.65 ha		
Passive Open Space	0.00 ha			1.31 ha			2.65 ha		
Net Developable Area	11.01 ha			11.40 ha			8.94 ha		
Roads	0.66 ha			0.85 ha			1.30 ha		
Local & Connector Streets	0.66 ha			0.85 ha			1.30 ha		
Net Residential Area	10.35 ha			10.55 ha			7.64 ha		
Lots in Transmission easement	10.35 ha			10.55 ha			6.38 ha		
Lower Density Housing	0.00 ha			0.00 ha			0.00 ha		
Standard Density Housing	0.00 ha			0.00 ha			1.26 ha		
Lot Yield Estimate									
Lots in Transmission easement	Ave. lot size (ha)			Ave. lot size (ha)			Ave. lot size (ha)		
	5 lots			5 lots			3 lots		
	2.00			2.00			2.00		
	Ave. lot size (m²)			Ave. lot size (m²)			Ave. lot size (m²)		
Lower Density Housing	0 lots			0 lots			0 lots		
	1500			1500			1500		
Standard Density Housing	0 lots			0 lots			16 lots		
	800			800			800		
Total Lots	5 lots			5 lots			19 lots		
Length of proposed linear trails	0 lm			0 lm			0 lm		
Length of proposed new roads	380 lm			530 lm			500 lm		

	Property 4			Overall		
130204 / RevA	%TSA			%TSA		
Total Site Area	8.42 ha			43.73 ha		
Area within Transmission easement	5.26 ha			22.32 ha		
Encumbered Land	0.00 ha			0.00 ha		
Non developable	0.00 ha			0.00 ha		
Gross Developable Area	8.42 ha			43.73 ha		
Public Open Space	0.00 ha			3.96 ha		
Passive Open Space	0.00 ha			3.96 ha		
Net Developable Area	8.42 ha			39.77 ha		
Roads	0.00 ha			2.81 ha		
Local & Connector Streets	0.00 ha			2.81 ha		
Net Residential Area	8.42 ha			36.96 ha		
Lots in Transmission easement	8.42 ha			35.70 ha		
Lower Density Housing	0.00 ha			0.00 ha		
Standard Density Housing	0.00 ha			1.26 ha		
Lot Yield Estimate						
Lots in Transmission easement	Ave. lot size (ha)			Ave. lot size (ha)		
	4 lots			17 lots		
	2.00			2.00		
	Ave. lot size (m²)			Ave. lot size (m²)		
Lower Density Housing	0 lots			0 lots		
	1500			1500		
Standard Density Housing	0 lots			16 lots		
	800			800		
Total Lots	4 lots			33 lots		
Length of proposed linear trails	0 lm			0 lm		
Length of proposed new roads	0 lm			1410 lm		

Development Analysis - Summary for each Scenario												
	Scenario 1			Scenario 2			Scenario 3			Scenario 4		
130204 / RevA	%TSA			%TSA			%TSA			%TSA		
Total Site Area	43.73 ha			43.73 ha			43.73 ha			43.73 ha		
Area within Transmission easement	22.32 ha			22.32 ha			22.32 ha			22.32 ha		
Encumbered Land	0.00 ha0%			0.00 ha0%			1.96 ha4%			37.22 ha85%		
Non developable	0.00 ha			0.00 ha			1.96 ha			37.22 ha		
Gross Developable Area	43.73 ha %GDA			43.73 ha %GDA			41.77 ha %GDA			6.51 ha %GDA		
Public Open Space	4.97 ha11%			15.98 ha37%			27.85 ha67%			2.65 ha41%		
Passive Open Space	4.97 ha11%			15.98 ha37%			27.85 ha67%			2.65 ha41%		
Net Developable Area	38.76 ha %GDA %NDA			27.75 ha %GDA %NDA			13.92 ha %GDA %NDA			3.86 ha %GDA %NDA		
Roads	5.92 ha14%15%			2.41 ha6%9%			2.36 ha6%17%			0.69 ha11%18%		
Local & Connector Streets	5.92 ha			2.41 ha			2.36 ha			0.69 ha		
Net Residential Area	32.84 ha75%85%			25.34 ha58%91%			11.56 ha28%83%			3.17 ha49%82%		
Lots in Transmission easement	24.17 ha			16.26 ha			1.41 ha			0.00 ha		
Lower Density Housing	8.67 ha			6.09 ha			6.85 ha			0.00 ha		
Standard Density Housing	2.99 ha			2.99 ha			3.30 ha			3.17 ha		
Lot Yield Estimate												
Lots in Transmission easement	Ave. lot size (ha) 11 lots2.00			Ave. lot size (ha) 9 lots2.00			Ave. lot size (ha) 1 lots2.00			Ave. lot size (ha) 0 lots2.00		
	Ave. lot size (m²)			Ave. lot size (m²)			Ave. lot size (m²)			Ave. lot size (m²)		
Lower Density Housing	58 lots1500			41 lots1500			46 lots1500			0 lots1500		
Standard Density Housing	37 lots800			38 lots800			41 lots800			40 lots800		
Total Lots	106 lots			88 lots			88 lots			40 lots		
Length of proposed linear trails	0 lm			1639 lm			2215 lm			0 lm		
Length of proposed new roads	1704 lm			1437 lm			1395 lm			403 lm		