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Crescent Parklands Zone Areas

I have located a file which we have which shows the zoning boundaries. This file has originated as a GIS file and has been imported into AutoCAD for our use.

The zoning file has been prepared based on MGA co ordinates, and is for an are larger than the site in question.

The site boundaries have been determined in MGA co ordinates as well, so both data sets are on the same orientation and position.

Overlay GIS data to site Boundaries

I have reviewed the overlay of the zone boundaries over the site boundaries. I note that they do not overlay exactly with differences at around the 80 to 100mm level generally.

The RE1 section from the zoning plan does not break down the are over just the site but is referencing a much larger area within its mapping. To determine the affectation on the site, I have created a polygon based on the planning GIS data.

I have enquired the areas of the various polygons and have determined the areas which I tabulate below

Zone	Area based on GIS data	DA Submission	Difference
R4 Zone	12 246 m2	12 406m2	-160m2

B4 Zone	16 172m ²	16 267m ²	-95m ²
SP2 Zone	1550 m ²	1 490m ²	60m ²
RE1 Zone	7860 m ²	7 714 m ²	146m ²
Total Area	37 828 m²	37 877m²	-49m²

As seen in the table, the total areas do not add up to be the same between GIS data and the DA submission (site Area) The reason is that the difference accounts for the misalignment of the zone boundary with the site boundary. In real terms this difference is quite small.

GIS Data

I note that GIS based data is generally considered as not being 100% accurate in a survey sense. The base cadastral model adopted would have been sourced from the Digital Cadastral Data Base (DCDB) maintained by Spatial Services. This data base is not survey accurate and is not based on survey data. It has been compiled over time and originated as an image only. In recent years it has been updated by addition of survey accurate data.

Generally zone boundaries are intended to run along lot boundaries, road or railway boundaries or similar physical or legal boundaries or along a drafted line which in my experience may be considered an approximation.

In this case, the zone boundary located within the site parcel are considered somewhat arbitrary as they don't follow a physical or legal feature

Mapping Grid vs Ground Distances

I have reviewed the scale factor which should be applied to mapping to convert from grid distances o ground distances. Boundaries are measured on ground distances (true horizontal distance at sea level) whereas GIS data is typically mapped and includes a scale factor. GIS data is mapped to a mapping grid.

The difference between the mapping grid and the ground distances at the location for the site is 15 parts per million or 15mm per kilometre of distance.

As the scale factor is so small in this instance, I have ignored it.

Previous Experience

We have worked regularly in the Austral and Leppington areas. We have obtained and used GIS data for these surveys and planning applications. It is common to find inconsistencies between GIS and actual boundary data including but not limited to

- Incorrect street widths in GIS data

- GIS data street not aligning with existing streets
- Zone boundaries not aligning with property boundaries by small amounts
- SP2 road widening corridors exceeding Council requirements and encroaching onto residential zonings
- GIS data not aligning with existing cadastral layouts

We have generally adopted the approach of shifting GIS data to match the cadastral lot boundaries in the area of concern and review the intention of the zoning lines. This will mean aligning the zones to achieve a satisfactory outcome.

We have then presented that to Council for their concurrence before proceeding with the application.

Next Steps

My suggestion is to discuss the Council requirements for areas with them to consider the objectives of where the zone boundary has been placed. The GIS data should not be considered a mathematical model and should enable some wiggle room around the areas.

A negotiated outcome is the best pathway to a usable solution.

Yours Faithfully



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