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PREDICTIVE MODELS AND ZONING PLANS: A CONFUSION IN METHODOLOGY

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PREFACE

This short discussion has been presented in an attempt to provide direction for the application of two different methodologies devised by this author for two separate circumstances. It is not intended to be a discussion of the manner in which these procedures are achieved. Some considerable confusion, on the part of some clients and practitioners, appears to have arisen since their inception and acceptance.

The methodologies, the predictive model and the zoning plan, were conceived during the last eight years to deal with issues associated with specific sites and tasks which were found to have significant problems when tackled in a traditional manner. Both were conceived as planning tools and the zoning plan in particular was intended to be used and easily understood by conservation practitioners who were not conversant with archaeological terms and requirements, for example architects and site foremen.

Both these methodologies have been adopted by a number of federal and state agencies, however, in some cases this has been with an apparent lack of understanding of their particular functions. In one case both model and plan were requested for a single site although the methodologies are not inter-changeable and are rarely compatible on the one site. In other cases requests have been made of archaeologists to use one or both and the final product would suggest that the practitioner has misunderstood the original function of the techniques by unnecessarily complicating a reasonably simple method.

It is because of this confusion and because of the

increasing use of the two techniques that the following discussion has been presented to briefly state the original intent behind the use and practice of these two methods. Most techniques and methods can be improved and I am certain that these two are no exceptions; in the time since they were first used I have simplified both, however, it seems to be worthwhile at this point to define their original objectives and methodology before others improve on them who may not know the circumstances of and, therefore, the reasons for their conception.

THE ZONING PLAN

The zoning plan was first devised for the Royal Mint and Hyde Park Barracks programme of 1980/1981. It has since been used in a number of forms on different sites, for example Goulburn Brewery.

The zoning plan is only used on small, well researched and reasonably well documented sites where the physical development of that site is comparatively well known. The sites mentioned above, the Barracks, the Mint and the Goulburn Brewery are excellent examples. Parliament House, Sydney and Cockatoo Island would or could be other applicable cases.

In the ideal situation the zoning plan for a site should be completed before a works programme is devised so that the provisions of the plan may be incorporated within that programme. At the least it should provide guidance for any future works on the site; it is essentially a planning tool.

There are five major provisions in the plan. These are:

Permanent Reference Site: Sites of outstanding archaeological significance or potential; unique sites, type sites. Not to be disturbed.

Protected Area: Sites of outstanding archaeological significance or potential; may be disturbed only for essential and justified research purposes by qualified and approved archaeologists.

Research and Education Area: Disturbed or partly disturbed sites, archaeological relics and/or deposits. To remain permanently available for approved education and research.

Primary Release Area: Areas which have been totally disturbed and all archaeological material removed, May be disturbed.

Secondary Release Area: Areas of slight or minimal archaeological significance or potential which have not been investigated. May be disturbed under archaeological supervision.

These provisions allow for the protection of sites for future investigation, for current research objectives, salvage measures, display and educational opportunities, watching briefs and minimal or no archaeological involvement. The full extent of that archaeological involvement, both immediate and long term, is provided for in a framework that allows resources such as manpower and money to be managed in

an informed and economical manner.

The designated areas are represented on a site plan either by colour coding or symbols. The resultant graphic representation of the provisions provides an easy reference for site managers, for example in the routing of service trenches. The particular area designation indicates a type of archaeological procedure; the methods employed in the application of that procedure are at the discretion of the archaeologist.

To be effective a zoning plan requires, at the very least, detailed archival research and an assessment of the archaeological potential of the site based on the preceding work. Where this is the extent of the data base on which the provisions may be formed caution in the application of those areas is the best policy; they can be amended at a later date. Some limited site testing adds substantially to the accuracy of the site provisions.

THE PREDICTIVE MODEL

The predictive model was devised originally for heritage studies, the first being Penrith, where very large areas of land were involved and minimal research available. A site survey in the traditional manner of walking (or driving) over every square inch was impractical because of the size of the regions involved and the time and financial constraints which are always a feature of this type of study.

Finally the validity of this approach was questionable in a situation where the archaeological resource could be, and largely was, invisible and the accompanying research was generally non site specific, thereby providing little or no direction for informed surveys.

The methodology devised to cope with this kind of situation has since been applied to cases other than the heritage studies, for example E.I.S's, conservation plans, such as that for Audley, and surveys of large estates such as Camden Park and Rouse Hill House. However, in all cases the factors which have influenced the choice of this methodology have been the size of the study area and the limited amount of available archival documentation.

The methodology involved in the predictive model is similar to that used by prehistorians although it lacks the considerable data base which is available to that discipline against which the model may be tested. To overcome this problem a limited survey, or the best that can be achieved within the time frame, should be carried out to test the accuracy of the model in the specific circumstances.

To achieve the historical model various sets of data are established, for example the historically known events of settlement (generally in a phased system) and factors which may have influenced a specific geographical distribution of sites, for example town developments around railways; the types of sites which are known to have been associated with that form of settlement or could reasonably be expected to have been associated with it; factors which may have influenced the retention or otherwise of

archaeological material such as flood, animal movement or pasture improvement, ephemeral construction, planned clearance programmes etc.

All this data is synthesised to provide a model of the way in which a region or estate has been initially and subsequently developed. This model can then be used to predict the most likely areas of remnant archaeological material and areas of little or no probability for the same.

For example, at Camden Park Estate the predictive model was one of hill top settlement and expanding centralization; a single focus of activity which has been multiplied over time. Each new centre was related to a specific function, pastoral, agricultural or horticultural and a complementary infrastructure of buildings and features was developed around each.

Some factors which encouraged this form of settlement have been the flood prone nature of the land which dictated hill top settlement, the importation of domestic laborers who became tenants and created small hamlets associated with their work areas and a shifting economic basis which resulted in a physical change in direction for the major work areas on the estate.

The model could be used to predict specific areas of potential archaeological sensitivity, for example around the home farm; the types of sites which may be associated with those areas and the general pattern of potential evidence, for example the probable locations of nineteenth and twentieth century sites. A limited site survey of the estate has since confirmed the patterns suggested by the predictive model.

CONCLUSIONS

The predictive model and the zoning plan are two distinct methods for two different sets of problems. The former is intended for large regional studies where the available archival material is generally limited and the latter is used for single sites where the physical development is comparatively well documented. Both are intended as planning tools for the immediate and long term management of an archaeological resource.

The zoning plan in particular is intended to be used by managers who have little or no knowledge of archaeological requirements; as such the simpler the method the better for the effectiveness of its application. The predictive model is a method specifically designed for use by archaeologists. Its objective is that of creating a high probability framework in which to make informed recommendations for the management of the archaeological resource and the direction of future site works. It is achieved without disturbing the site.