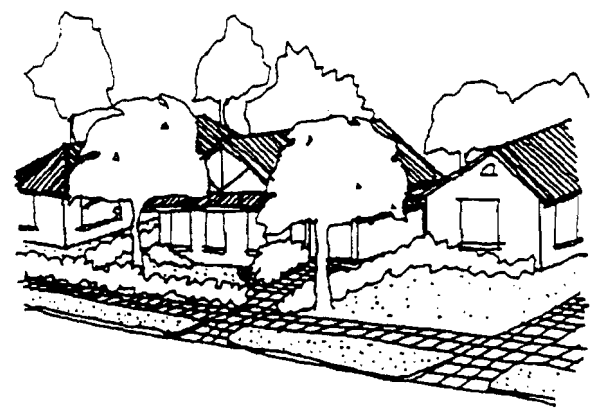
A Project by the Royal Australian Planning Institute
for the Department of Environment Sport & Territories

The

User's Guide

to

Designing and Implementing Performance Based Residential Development



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About the training program

The strategy

The training program *Design and Implementation of Performance Based Residential Codes* is part of the Royal Australian Planning Institute's national strategy for professional development of practitioners in all fields of residential development. It has been funded by the Federal Department of the Environment, Sport and Territories.

In 1995 Peter Jensen of Peter Jensen,Urban Planning and Design and Dr Raymond Bunker, a planning educator, were commissioned as part of a project team with *AHURI*, the Australian Housing and Urban Housing Research Institute, to develop the training course, this *User's Guide* and the companion *Trainer's Manual.*

Peter Jensen and Raymond Bunker have been involved in developing or teaching performance based (PB) approaches to design and development across Australia. AHURI has experience in the design of a wide range of training programs and the publication of training manuals for the housing and urban development sectors.

Resources

The training program is made up of a set of training course modules supported by three resource documents:

- *The User's Guide to Designing and Implementing Performance Based Residential Development*
- *A Trainer's Manual*
- *The Quick Guide to Performance Based Residential Development.*

The *User's Guide* is designed to provide a solid understanding of performance based planning and development and their practical applications in the residential field. It will be of direct value to developers, architects, planners and designers, plan drawers and drafters, building surveyors, engineers, builders and developers as well as real estate companies involved in residential development work.

The *Quick Guide* has been produced for Local Government Elected Representatives and interested members of the general public as a short introduction to performance based residential development. It is designed to encourage more informed discussion about local residential development.

The *Trainer's Manual* is a practical handbook for practitioners with responsibility for staff development. It includes a series of case studies based on a number of commonly occurring situations in local residential planning and development.

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Designing and Implementing Performance Based Residential Development

RAPI

What's it all about?

User's Guide

What's it all about?

Summary

Overview

This Section looks at why the codes controlling residential development are changing to get better performance and results.

The change can be described as a shift from older rigid prescriptive standards designed to stop the worst happening, to performance based codes which encourage better outcomes, meeting a wider range of design objectives.

This Section examines what these changes are and what they mean for residential development generally.

1.1 Changing community expectations

Standards

Over the past 20 years Australians have become more interested in the quality of their cities.

Prescriptive standards

Twenty years ago, residential development was designed and assessed using prescriptive standards, such as:

- distance from boundaries
- number of dwellings per site
- number of parking spaces
- type of materials.

While these standards were seen as ways of achieving good development, they were frequently not successful. Ironically, they also tended to make dwellings more expensive.

New needs

As our towns and cities have grown since the Second World War, development opportunities and responses have become more complex and housing needs far more diverse.

Communities are demanding housing choices that are:

- ✓ more varied
- ✓ more affordable
- ✓ well located
- ✓ environmentally sustainable.

Issues

Designs for both low and medium density housing are increasingly more complex, due to a wide range of issues, such as:

- stormwater drainage and water management
- the enjoyment of privacy in the home
- personal security
- better use of energy.

Performance

Community concern about the forms and densities of housing is often due to examples of poor development. This is particularly true where the unique characteristics of a site and its locality have not been used to advantage.

Both the community and the building and development industries want ***performance*** *—* ***a performance based approach*** *to residential design and assessment.*

1.2 The move to performance

Design quality

Almost all codes combine statements about the kind of development required, or its performance, with a specification of some fixed standards.

Performance based codes are much more concerned with defining:

- design principles
- characteristics of good design
- performance criteria for design and development.

The main switch is from plans and codes where ***prescriptive numerical standards*** *dominate applications and their assessment to the use of* ***performance criteria*** *focusing on the quality of the design.*

Prescriptive codes and plans

Codes based on, or emphasising conventional "numerical standards" usually include general, vague statements about what kind of design and development is sought. They often omit a crucial connection between the desired character and the actual layout — that is, the **performance criteria.**

They focus instead on lists of standards that will lead to an approval.

Features

These prescriptive planning documents tend to contain a mixture of:

1 **Broad objectives**
These describe the kind of residential development sought

2 **Design principles**
These may include numerical components.
e.g. private open space shall be provided at the rate of 100 m^2 for a 3 bedroom dwelling and 80 m^2 for a 2 bedroom dwelling.

3 **Numerical standards**
These govern matters such as minimum size of lot, building height, setbacks from boundaries and amount of floor space in relation to lot size.

The qualitative statements are often not well made and tables of standards will be included so the development is "permitted", or "as of right" or "deemed to comply".

Example

Here is an extract from a prescriptive code:

	Detached	Semi-Detached	Row Dwelling
Area of site – square metres	560	420	370
Width of frontage of site of regular shape – metres	15	9	8
Depth of site of regular shape – metres	25	25	25
Width of frontage of site of irregular shape – metres	12	9	6
Average width of site of irregular shape – metres	15	11	8
Average depth of site of irregular shape – metres	28	28	27

Prescriptive codes characterised by specified numerical standards.

These particular standards also go on to specify other requirements:

- one car parking space for each dwelling
- an additional space for every two rooms in each dwelling to be used as bedrooms
- restriction of dwelling construction to one third of the site area
- prohibition on external walls (excluding eaves and footings) being nearer than 1.5 metres from a side or rear boundary.

Numerical standards

If the design and assessment of a development project is based on poorly-defined design principles and numerical standards, then attention and judgement will almost inevitably focus on the numerical standards.

Numerical standards:

- offer a degree of apparent precision, compared with vague statements and criteria about the general kind of development being sought
- enable planning decisions to be seen as apparently fair, objective, and applied uniformly.

In some simple planning situations, (which are becoming less common) prescriptive numerical standards may be sufficient to guide a development.

The result, however, is often a very basic development that ignores site and locality characteristics and impacts.

New concerns

Today's complex development situations reflect the changing community concerns outlined earlier. Many applications which satisfy basic standards are often rejected on the grounds that:

- they overlook
- they are too crowded
- car parking doesn't work
- open space and gardens do not provide adequate amenities or opportunities for recreational use.

1.3 The development of *AMCORD*

AMCORD

Research

During the 1980s and early 1990s effort and research went into designing planning approaches and residential development codes that would encourage better, sensitively designed dwellings, streets and neighbourhoods.

The research material was consolidated into *AMCORD*, the Australian Model Code for Residential Development.

Features

AMCORD, A National Resource Document for Residential Development was released in its final form by the Commonwealth Government in November 1995.

AMCORD provides:

- ✓ a process to achieve more efficient, responsive and environmentally sustainable housing development
- ✓ a means of improving housing quality and choice
- ✓ a framework for a more consistent regulatory environment
- ✓ guidelines for all forms of housing (other than high rise and "special needs" housing) for both infill and greenfield situations.

Importantly, AMCORD is not a statutory planning document. Control of development can only be implemented through the authority of state laws.

Preparing codes

From 1989 onwards, state and local governments have been drawing upon AMCORD's research and best practice material. The states and territories are currently involved in preparing their own residential codes and plans based on the performance approach advocated in *AMCORD*, for use by local government, designers and builders/developers.

Some of these state codes are used as statutory documents for controlling development. They also observe the legislative conditions and circumstances of their own state or territory.

Further information

Appendices 1 and 2 provide more information on the recent *Victorian Good Design Guide for Medium Density Housing* and the draft NSW Code.

Comparing state codes

The diagram below outlines similarities between *AMCORD* and the codes in Victoria and New South Wales and their relationship to prescriptive standards and performance approaches.

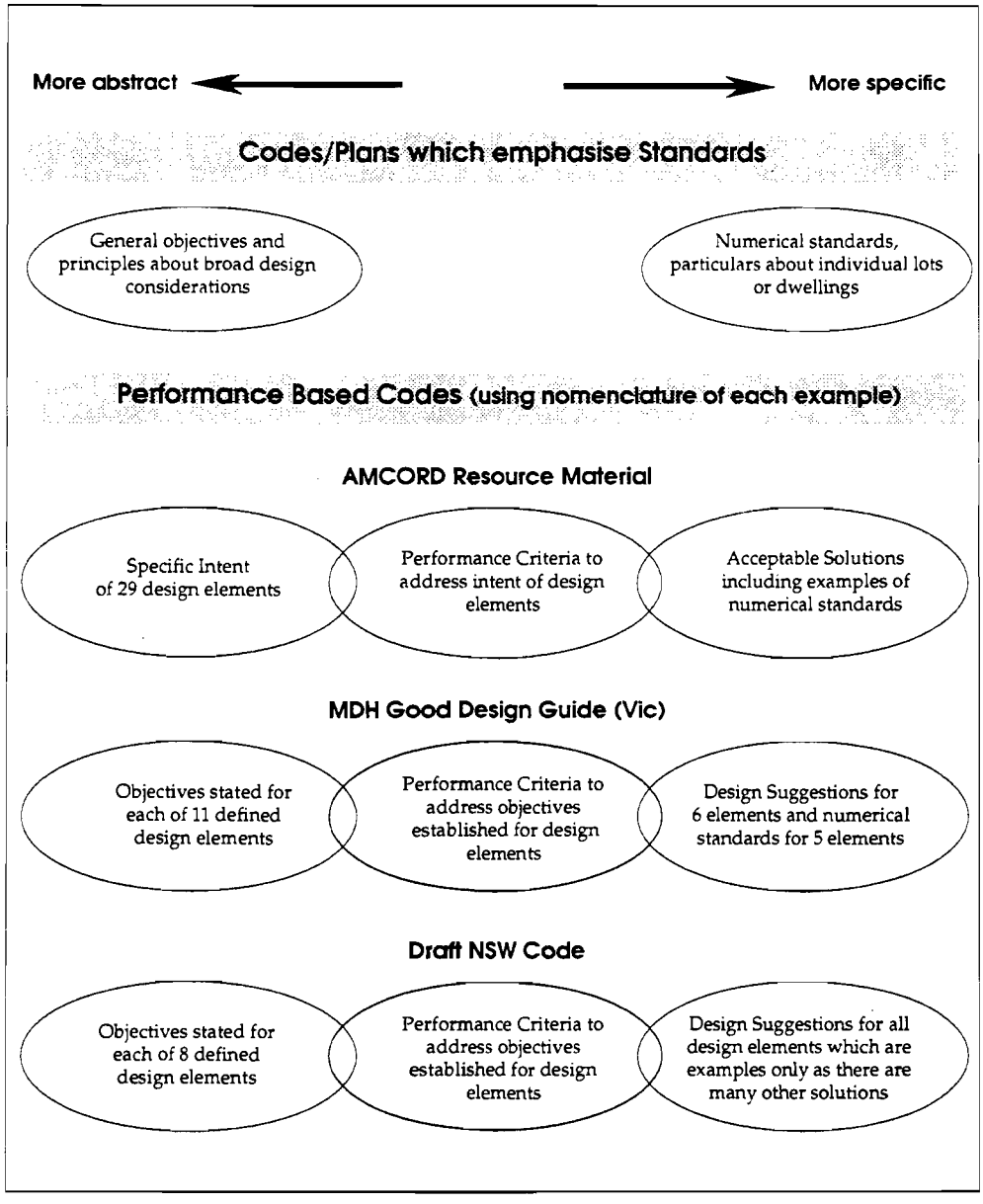


Figure 1.1 **Concepts and Terms in Standards and PB Planning Approaches**

1.4 Key components of the PB approach

Elements and Components

AMCORD contains the most comprehensive range of concepts, ideas and examples, so it is appropriate to use its explanation of the basic concepts and provisions of performance based planning for residential development.

Design Elements

There are twenty-nine **Design Elements** grouped in two broad categories:

1 Neighbourhood planning and infrastructure

2 Streetscape, site planning and design.

Key Components

Each Design Element contains four **Key Components** which contribute to the performance approach being advocated.

These components are:

1 Explanation

2 Intent

3 Performance Criteria

4 Acceptable Solutions

Further information

Appendix 3 provides two typical pages from an *AMCORD Design Element.*
(See *AMCORD*, **Part 2, pp. 166–167**)

Appendix 4 provides an outline of the design issues covered in the 29 *AMCORD* Design Elements.

The Key Components

1 Explanation

Provides a brief justification of, or states the need for, the particular Element, and provides the background to the various issues relating to it.

Design or assessment techniques and examples of different design approaches are included. The explanation is important in *setting the context* for the particular Element and providing a *rationale* for its inclusion.

2 Intent

States what is to be achieved or what the desired outcomes are for that particular Element.

In complying with the Intent of each element, the designer must comply with all relevant *Performance Criteria.*

3 Performance Criteria

Are general statements of the means of achieving the Intent.

They are not meant to be limiting in nature as they provide designers and developers with an opportunity to develop a variety of design responses.

Not all Performance Criteria will be applicable to every development. In submitting a proposal for approval, the designer and developer must indicate any criteria which are not relevant to their particular development.

4 Acceptable Solutions

Acceptable Solutions are provided as examples of what may enable the achievement of the Performance Criteria.

Performance based regulation requires not only a description of desired performance but also some examples of ways in which this performance can be achieved.

Wherever possible, they are expressed as numerical 'standards.'

Sometimes, however, they ask for a detailed plan (e.g. a Landscape Plan) to be prepared by a qualified person rather than identifying generic landscape 'standards.'

In particular cases such as private open space, setbacks etc., the standards could vary depending on the density of development, or whether the proposal is for infill housing in an established area or for new housing on the urban fringe.

Application of Acceptable Solutions

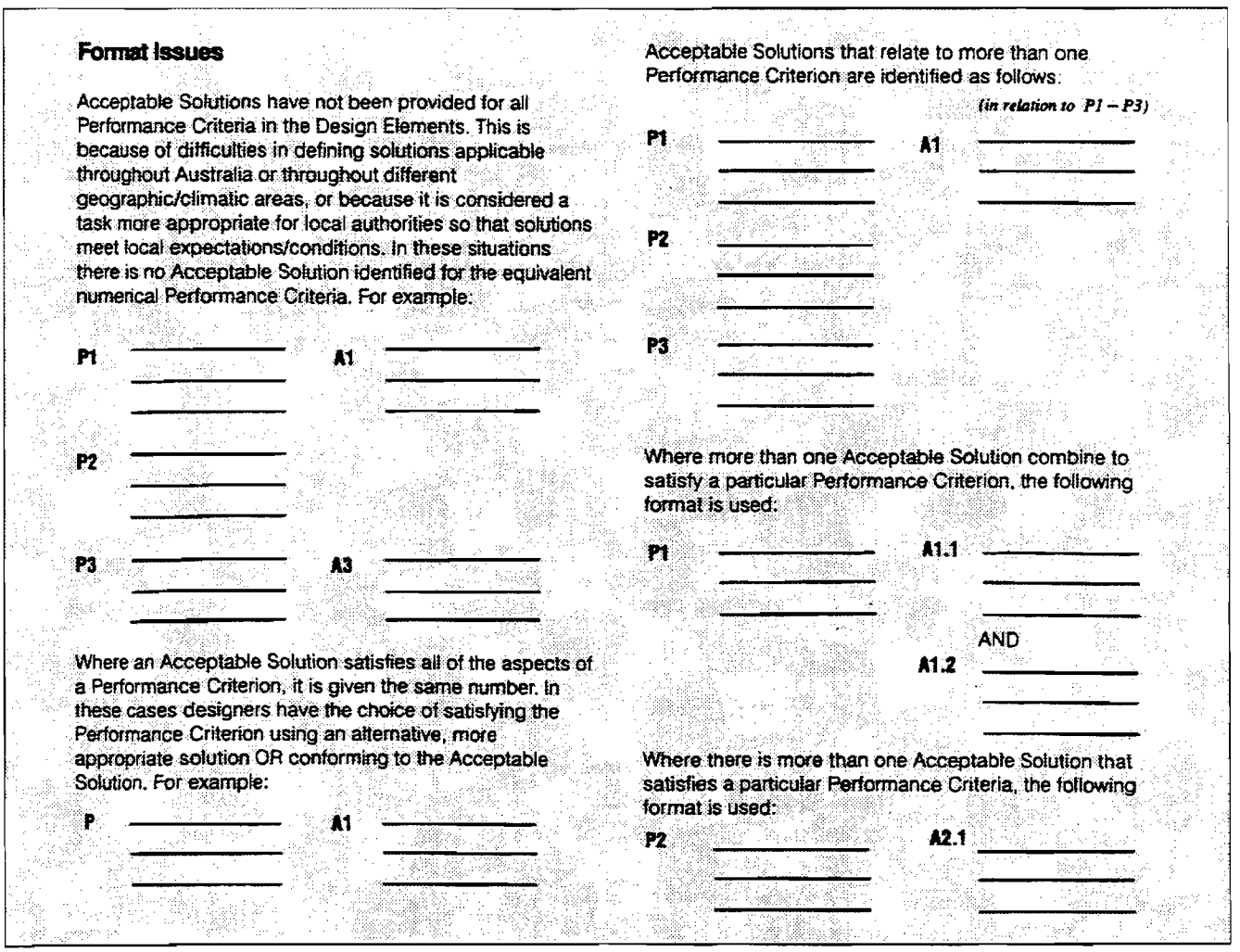
> "(Acceptable Solutions) ... should not be interpreted as an alternative prescriptive form of regulation nor should they preclude other solutions."
>
> — *AMCORD*, p.53

Acceptable Solutions are not provided in all circumstances. When they are, they relate to a specific performance criterion.

Performance Criteria

In some instances the adoption of a number of specified Acceptable Solutions will be needed to satisfy a performance criterion. In other instances one Acceptable Solution will achieve this.

In other instances again, the adoption of one or several Acceptable Solutions may only partially satisfy the requirement of the performance criterion, as this extract from *AMCORD* illustrates:



Format Issues

Acceptable Solutions have not been provided for all Performance Criteria in the Design Elements. This is because of difficulties in defining solutions applicable throughout Australia or throughout different geographic/climatic areas, or because it is considered a task more appropriate for local authorities so that solutions meet local expectations/conditions. In these situations there is no Acceptable Solution identified for the equivalent numerical Performance Criteria. For example:

P1 — A1

P2

P3 — A3

Where an Acceptable Solution satisfies all of the aspects of a Performance Criterion, it is given the same number. In these cases designers have the choice of satisfying the Performance Criterion using an alternative, more appropriate solution OR conforming to the Acceptable Solution. For example:

P — A1

Acceptable Solutions that relate to more than one Performance Criterion are identified as follows:

(in relation to P1 – P3)

P1 — A1

P2

P3

Where more than one Acceptable Solution combine to satisfy a particular Performance Criterion, the following format is used:

P1 — A1.1

AND

A1.2

Where there is more than one Acceptable Solution that satisfies a particular Performance Criteria, the following format is used:

P2 — A2.1

Figure 1.2 **Relationship of *AMCORD* Acceptable Solutions to Performance Criteria**
Source: *AMCORD* p.56

Role of Acceptable Solutions

These flexible relationships are important as they express the complexities of the design process.

While Acceptable Solutions represent a means of satisfying the relevant Performance Criteria, it is important for designers, developers and assessors not to regard them as minimum standards.

Other 'solutions' (such as using a lesser setback or area requirement) can also be considered. In each case, the emphasis should be on a *site and market responsive approach* that takes into account the need to balance what are often competing design objectives.

Using existing codes

Where staff resources are limited, or development situations fairly simple and standardised, (e.g: detached houses on larger allotments) it may be better to settle for modest, attainable improvements to existing codes in order to:

- lessen prescription
- define performance or outcome more clearly
- ensure that adequate analysis and appreciation of the site of an intended development is carried out.

Scope for local acceptable solutions

AMCORD also promotes the option for individual planning agencies to develop their own Acceptable Solutions which, through experience and/or research, have proven to be effective for a particular locality or region, *provided that they do not compromise the integrity of the document or conflict with the overall aims.* (See *AMCORD*, pp.1–9)

> "(Agencies) may wish to add other solutions which have been found to be satisfactory in the local area. Some developers wanting to 'fast-track' approval may then opt for one of these proven solutions ..."
>
> — *AMCORD*, p.55

Interpretation of acceptable solutions

An important feature of performance based codes is the change in status given to numerical standards which may be provided.

For practitioners developing codes, it is important to spell out:

- the kind of performance required of residential development
- the design or 'standards' criteria that demonstrate that performance is being achieved.

In *AMCORD*, the Acceptable Solutions are included as examples of ways in which desired performance can be achieved. Some of these examples are presented as numerical standards which still *illustrate only one way of meeting the associated Performance Criteria.*

State Codes

The Victorian and New South Wales Codes were developed with reference to *AMCORD* principles but they use different terminology and emphasis regarding Acceptable Solutions.

They draw attention to the accurate specification of Performance Criteria for design elements, and to the careful analysis of how a proposal measures up against these.

A Victorian Perspective

The ***Victorian Medium Density Housing Guide*** uses the term **techniques** instead of Acceptable Solutions and includes them in some of the design elements.

The MDH Guide makes the same qualification that *AMCORD* makes:

> "... anyone proposing a development may use an alternative method if it can be demonstrated to the satisfaction of a responsible authority that the alternative will satisfy the design element objectives and criteria as well or better than the prescribed techniques."
>
> — MDH Guide 1:3 of 3

The reverse is also stated:

> "... a responsible authority may also diverge from a prescribed technique if it believes that compliance with the technique will not satisfy the objectives and criteria of a design element."
>
> — MDH Guide 1:3 of 3

The 1996 Victorian document, ***Design Assistance Training for Local Government***, is very direct on this point:

> "Techniques apply to five of the Elements. They are assumed to achieve the objectives and criteria of a design element unless it can be demonstrated in a particular case that:
>
> - an alternative will satisfy the relevant objectives and criteria; or
> - compliance with the technique will not satisfy the relevant objectives and criteria."

The New South Wales Approach

The *New South Wales Code* takes a similar stance.

Acceptable Solutions are replaced with *Design Suggestions*, which are provided for each Design Element.

The *NSW Code* also states that the Design Suggestions are not prescriptive standards or performance measures that, if met, imply that the criteria have been satisfied. The standard annotation for these is:

> "The Design Suggestions are examples only. They are not standards. There are many other solutions. All design solutions will be considered on merit."

Other states and territories

As other states and territories develop their *codes* and Plans based on *AMCORD*, those using this Guide will need to incorporate relevant material and ensure that they are familiar with the key components.

Other *AMCORD* resources

AMCORD provides background research, theoretical material, practical advice and case studies of best practice techniques for residential design and development.

The two-part companion document ***Practice Notes*** contains:

- **Planning Practice Notes**
  These build on and support material contained in Part 1 of *AMCORD*
- **Design and Development Practice Notes**
  These build on and support material in Part 2 of *AMCORD*.

The ***Practice Notes*** are a valuable information source for designers, developers, local and state government. It is hoped that they will be periodically updated and expanded by state and local governments as innovations in design and development are tried and tested.

1.5 Advantages of PB approach

Performance based planning

The strengths of performance based planning include:

✓ **Responsiveness**
Greater responsiveness to market needs.

✓ **Incentive**
Encouragement of design excellence in the achievement of 'best-fit' solutions.

✓ **Inclusiveness**
All parties applying a holistic (whole of design) framework.

✓ **Flexibility**
More flexibility in responding to differing design requirements.

✓ **Utility**
The best and highest use of a site within the bounds of an overall strategic framework.

✓ **Balance**
Scope for trading-off some design objectives when there is sufficient justification.

✓ **Customisation**
Specific reference to the particular site and locality conditions and characteristics.

Benefits

The fact that *design responses are more likely to exhibit best practice* given site, locality and market contexts is a compelling justification for adopting a performance based approach.

AMCORD makes the same point in this way:

> "Arguments in favour of a performance based system of control are that it:
> - focuses on objectives and desired outcomes;
> - offers an opportunity for diversity and choice;
> - provides flexibility to respond to market needs and preferences...
>
> An implied benefit of a performance based approach to design and assessment is that it provides a rationale for the various design requirements such as privacy, energy efficiency, private open space, etc....
>
> This assists in broader acceptance by the community, and ultimately more demand for good residential design."
>
> — *AMCORD*, p.54

1.6 Challenges of PB approaches

Meeting the challenges

The PB approach requires :

- **Detailed assessment**
  A more detailed design assessment process, requiring improved skills and training skills
- **Improved skills**
  A more refined set of skills from the assessor and designer
- **Local planning**
  An agreed framework of strategic outcomes for the local area and the vicinity of the site
- **Teamwork**
  A well-developed, multidisciplinary team approach to assessment
- **A change in attitude**
  A mind shift towards more creative and responsive work practices.

Disadvantages

Some disadvantages which may be experienced by practitioners using a PB approach include the following:

> "It could involve too great a discretionary judgement, which could create uncertainty and misunderstanding.
>
> If the objectives and policies are too general, they may be open to too wide a range of interpretation, and lead to approval of some inferior work.
>
> There is a potential for delay because additional work will be required to demonstrate that the performance criteria have been addressed and the objectives met.
>
> *Assessors may not have the time and expertise in administering a performance based system ...* "
>
> — *AMCORD*, p.54

Being prepared

Experience suggests that these disadvantages or challenges can be overcome or be viewed as a wearable cost of the PB approach.

Most importantly, practitioners need to be aware of the challenges and manage the design and assessment process carefully, to achieve maximum benefit of the approach.

1.7 Requirements for success

Making it work

Performance based approaches require a number of conditions for success because of the wider scope for interpretation of performance criteria than occurs for more rigid 'standards' approaches.

Factors for success:

- **Targets**
  Knowing the outcomes and how a development might fit into this overall planning and development context

- **Preparation**
  Pre-design discussion between the developer or building designer and the assessor

- **Consultation**
  Consultation with stakeholders or key players affected by the proposed project

- **Clarity**
  Clarified performance criteria in relation to a specific site and locality

- **Awareness**
  Agreement between applicants, Councils and the community about "cultural" differences between regions and states as to perceptions, attitudes and responses to issues such as privacy.

Implications

These requirements create extra demands on the time that needs to be spent on research and consultation. They also mean that professionals involved in the development process need to be suitably trained, able to use negotiation and mediation skills and equipped to properly document the process.

Any extra call on human resources should be outweighed by the benefits of achieving a mutually acceptable design solution early in the approval process, and of general improvements in housing quality and choice.

Local government administrative practices

There are several factors which can work against a performance based approach apart from the need for extra resources for planning and assessment of residential development. A significant factor can be the departmental staff arrangements within a council.

Roles

While some council staff research and formulate residential policies, others have responsibility for the administration of the regulations.

Often they have few opportunities to confer about the principles and objectives behind their approaches to residential planning and development. This can lead to a breakdown in communication, particularly when it comes to interpreting the precise intent of Design Elements and associated Performance Criteria or Acceptable Solutions.

Ways of improving the process:

- **Increasing participation**
  The officers who will eventually administer the policy should have a legitimate role in its formulation and therefore a sense of ownership of its application.

- **Providing information**
  A clear, unambiguous explanation for the rationale and background to a particular policy should be given in the up-front planning process.

- **Changing roles**
  Staff should be rotated between policy development and development control to expose them to the full scope of the process.

1.8 Steps in the design and approval process

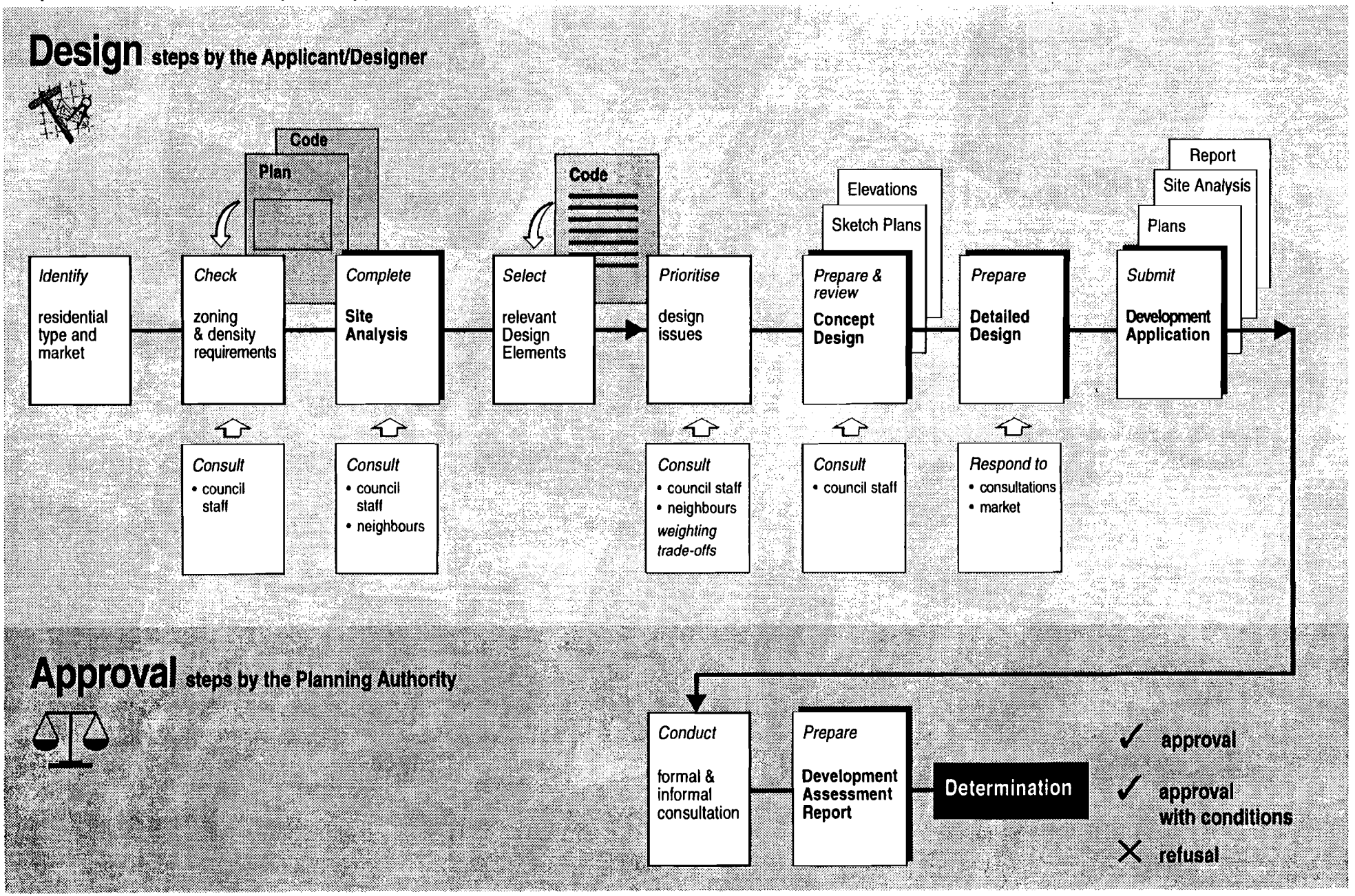
Summary diagram

The flow chart opposite summarises the essential steps im the residential design and approval process using the oerformance based approach.

The process is shown as a linera sequence with some of the inputs which will influence design outcomes. However, it may be necessary to return to previous steps (e.g. theSite Analysis, or consultation) at any stage.

The steps are described in detail in Sections 3, 4 and 5 of this *Guide*.

Steps in the Residential Development Application Process using the Performance Based Approach



Section

1

Appendices

Appendices

1 *Victorian Good Design Guide for Medium Density Housing*

2 *New South Wales Draft Code*

3 Typical AMCORD Design Element

4 AMCORD Design Elements – Design Issues

Appendix 1 *Victorian Good Design Guide for Medium Density Housing*

Introduction

Approach

The *MDH Guide* contains eleven Design Elements. Objectives are defined for each element and performance criteria constructed for them in a similar way to AMCORD.

Design Suggestions for six of these design elements are couched in careful qualitative language.

Techniques are specified for five other elements, and define and quantify critical variables. These five elements are:

- Density
- Building envelope
- Visual and acoustic privacy
- Car parking and vehicle access
- Private and communal open space.

Application

While councils must have regard to the Code statements, including design suggestions and techniques, these are not mandatory if good design can be demonstrated to have been achieved through other means.

Unlike *AMCORD*, the *MDH Guide* provides little by way of justification or explanation of the various design elements. Councils must use the MDH Guide as planning policy although local variation is specifically anticipated, particularly in relation to the *Techniques*. Any changes to the Techniques must be approved by planning scheme amendments.

The language, format and emphasis of the MDH Guide is significantly different from AMCORD. This is to be expected given that the Guide enshrines State planning policy.

Contents

The various components have an intent and function fundamentally similar to the corresponding components in *AMCORD*. The *MDH Guide* describes these components as follows:

> **Objectives**
> These are statements which define the intention of each element and indicate the desired outcomes to be achieved in completed developments.
>
> **Criteria**
> These provide a basis for judging whether the objectives have been met. Each development must be considered against all criteria but, depending on particular circumstances, it may not necessarily satisfy all of them.

Design Suggestions
Some criteria are supplemented by design suggestions which provide ideas on how the criteria, or certain aspects of them, might be addressed.

Techniques
Five design elements have techniques - density; building envelope; visual and acoustic privacy; car parking and vehicle access; private and communal open space.

The techniques are assumed to satisfy the relevant design element objectives and criteria. However, in particular cases anyone proposing a development may use an alternative method if it can be demonstrated to the satisfaction of the responsible authority that the alternative will satisfy the design element objectives and criteria as well or better than the prescribed techniques. Similarly, a responsible authority may also diverge from a prescribed technique if it believes that compliance with the technique will not satisfy the objectives and criteria of a design element.

Techniques may not be relevant where existing buildings are being recycled, but regard must still be had to the design element objectives and criteria.

Local Variations to Techniques
Techniques may be replaced or added to by local variations to techniques. Local variations must be approved by planning scheme amendments. They have the same status as the techniques they replace or supplement.

How to use the Guide
The Guide is to be used as a whole. All parts of it should be considered by both a designer and a responsible authority.

The preparation of a site analysis plan, which is described in the next section, is a prerequisite for any development proposal drawn up under the Guide.

Following the initial site analysis, all eleven design elements should be considered when preparing and assessing the development proposal. Wherever possible, a development application should satisfy the objective and criteria of all the elements. Invariably, different weighting will be given to each of the elements for any particular proposal due to the circumstances of the site. Because of this, a responsible authority must exercise its judgement as to whether a development proposal satisfies both the spirit and intent of the guide and enough of the design element objectives and criteria to be acceptable.

– *MDH Guide*, pp. 2–3

Element 7 VISUAL AND ACOUSTIC PRIVACY Objectives and Criteria

OBJECTIVES

E7.01 To limit views into neighbouring secluded private open spaces and habitable rooms.

E7.02 To protect residents from external noise.

E7.03 To contain noise sources in developments which may affect new and neighbouring dwellings.

CRITERIA

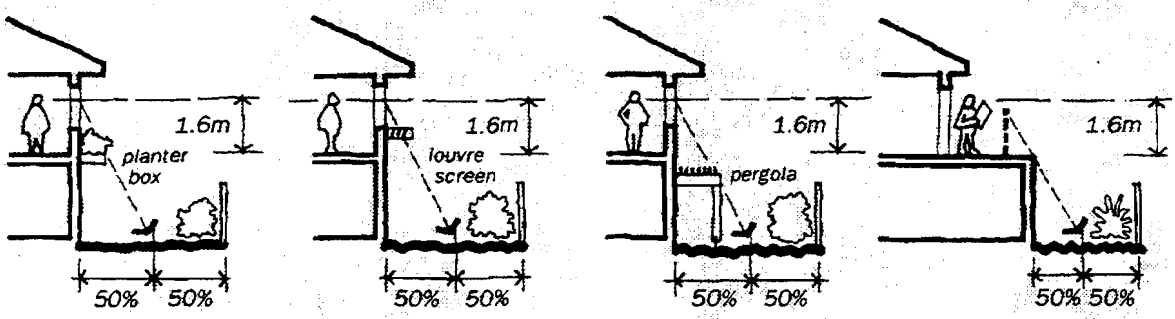
E7.C1 Secluded private open spaces and habitable rooms of adjacent existing dwellings should be reasonably protected from direct overlooking.

Design Suggestions

- *Use dwelling layout, design detail, distances or landscaping to minimise overlooking.*
- *Locate upper-storey living room windows and balconies so that views are towards the street or within the development.*
- *Locate the windows of one dwelling so that they do not provide direct and close views into the windows of another.*
- *Effective location of windows and balconies to avoid overlooking is preferred to the use of screening devices, high sills or obscured glass. Where these are used, they should be integrated with the building design and have minimal negative effect on residents' or neighbours' amenity.*
- *Place as few windows as possible alongside boundaries or close to rear boundaries unless they face a street.*

Design Element 7
Extract from the *MDH Guide*

E7.T3: IDEAS FOR PROVIDING PRIVACY TO A LOWER DWELLING'S SECLUDED PRIVATE OPEN SPACE



Various techniques may be used to screen a minimum of 50 per cent of the secluded private open space of a lower dwelling from overlooking from an upper dwelling.

ACOUSTIC PRIVACY

E7.T5 Any equipment or plant does not generate a noise level greater than 5dB(a) above ambient L90 sound level at the boundaries of the development at any time of the day.

E7.T6 Dividing walls and floors between dwellings are constructed to limit noise transmission to 45 STC (Sound Transmission Class) in accord with Part F(5) of the Building Code of Australia.

E7.T7 Habitable rooms of dwellings adjacent to high levels of external noise are designed to limit internal noise levels to a maximum of 45dB(a) in accordance with relevant Australian Standards for acoustic control (including AS3671 – *Road Traffic* and AS2021 – *Aircraft Noise*).

Local variations may replace or add to the *Techniques* in this Element.
Check the local section of the planning scheme to determine if local variations apply.

Design Element 7
Extract from the *MDH Guide*

Introduction

Approach

The *Draft NSW Code* of July 1996 contains a Model Code with eight design elements.

For each element, objectives and performance criteria are defined in a similar way to the MDH Guide. 'Design Suggestions' are provided as indicative solutions to the task of achieving the defined performance criteria, for all elements. These design suggestions are clearly labelled as examples only:

> "They are not standards... There are many other solutions... All design solutions will be considered on merit"

Application

The draft NSW Code reinforces the value of *AMCORD* as a resource or reference document and encourages Councils to use *AMCORD* for this purpose. In this regard individual Councils are encouraged to use and adapt the model code provided to formulate their own Development Control Plan for urban housing (i.e. all forms of low to medium rise multi-unit housing not greater than twelve metres high).

The draft NSW Code has been substantially derived from *AMCORD* and therefore exhibits many similarities.

Contents

The various elements of the Code are defined as follows:

> "**Objectives** are statements that define the intention of each design element.
>
> **Performance Criteria** are general statements of the means of achieving the objectives. Theyalso give designers and developers an opportunity to develop various design responses. Each development must be considered against all of the performance criteria. However, depending on the circumstances of the particular site, not all will be relevant and some will be more important than others. This is a matter for the applicant and councils to discuss during pre-application meetings.
>
> **Design Suggestions** provide examples of how a proposal may satisfy one or more of the performance criteria. They are not prescriptive standards or performance measures that if met, imply that the relevant criteria have been satisfied. There will beseveral design."

The *draft NSW Code* provides advice on implementing the Code:

> "Councils can adopt the code in full or in part, or modify it to reflect local circumstances either across a local government area or for a specific precinct or neighbourhood. Alternatively, they may adopt the format of the code and use AMCORD 1995 for their own development control plan."

Councils adopting and modifying the code will need to identify the desired future neighbourhood character of their locality as this will determine which objectives of the design elements are important.

In addition to adopting the design elements, Council will need to prepare their own introduction for their DCP and are free to utilise any text from Part 1 and Part 3 of this Guide.

A Council wishing to modify the Model Code will need to begin by establishing the Desired Future Neighbourhood Character as this will be the basis of the variation.

Councils can vary the performance criteria but only if the objectives of the design element are not compromised. However, they are encouraged not to vary the objectives or performance criteria in the interests of maintaining the integrity of the performance approach.

Where a local example of best practice is available, Councils can also vary any of the design suggestions. Any changes should be thoroughly tested considering the objectives and performance criteria of the design element, and the aims of the code...

Councils should attempt to utilise the model code's format and terminology."

AMCORD (1995) Section 2.2 and
Practice Note PND 1 – Adapting and Using the Design Elements provide information on how to successfully modify performance based models.

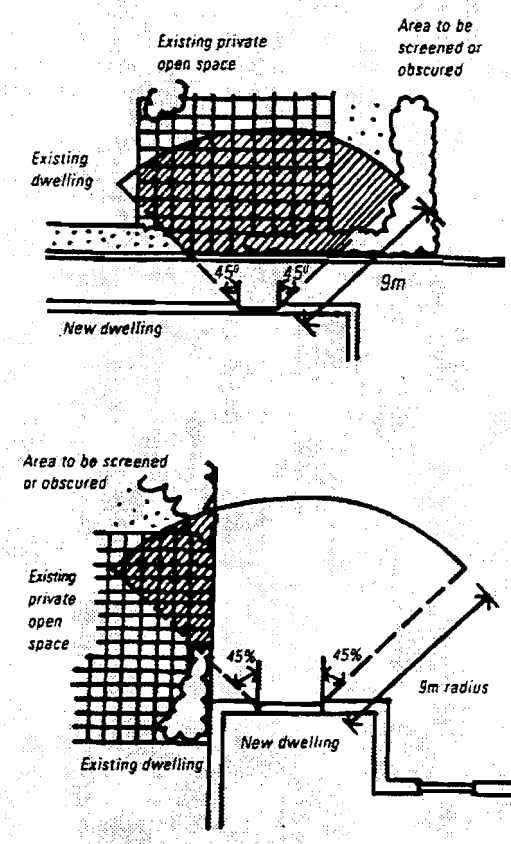
PRIVACY AND SECURITY

Design Element 4

OBJECTIVES

To ensure the siting and design of buildings provides visual and acoustic privacy for residents and their neighbours in their dwellings and private open spaces.

To provide personal and property security for residents and visitors and enhance perceptions of community safety.

PERFORMANCE CRITERIA	DESIGN SUGGESTIONS *The design suggestions are examples only. They are not standards. There are many other solutions. All design solutions will be considered on merit.*
Visual privacy • Direct overlooking of main internal living areas and private open spaces of other dwellings is minimised by, firstly: — site and building layout — location of windows and balconies; and, secondly, by the: — design of windows — use of screening devices and landscaping. • Building setbacks provide space for residents to feel an adequate sense of visual and acoustic privacy when using rooms fronting driveways, accessways, pathways and the public street.	• Site and building layout ensures: — windows do not provide direct and close views into the windows, balconies or private open spaces of adjoining dwellings or — adequate separation between dwellings. • Habitable room windows with a direct outlook to habitable room windows in an adjacent dwelling within a distance of 9m: — are offset by a distance sufficient to limit views between windows or — have sill heights of 1.7m above floor level or — have fixed translucent glazing in any part of the window within 1.7m of the floor level. • The outlook from within a development is obscured or screened when a direct view is available into the private open space of an existing dwelling. **Figure 3. Screening Views to Adjacent Private Open Spaces**  *Source: AMCORD (1995) p. 168*

PRIVACY AND SECURITY (continued)

PERFORMANCE CRITERIA (cont.)	DESIGN SUGGESTIONS (cont.)
	If screening is used, the view of the area overlooked is restricted to within 9m and beyond a 45° angle from the plane of the wall containing the opening, measured from a height of 1.7m above floor (see previous page). Screening is not required when windows: — are in non-habitable rooms and have translucent glazing or sill heights of at least 1.7m — in habitable rooms are designed or treated as per D1 — in habitable rooms face a property boundary where there is a visual barrier of at least 1.7m high and the floor level of the room is less than 0.6m above ground level at the boundary. • Windows and balconies of an upper level dwelling are designed to prevent the overlooking of more than 50 percent of the private open space of a dwelling directly below and within the same development. • Direct views are obscured by: — screening that has a maximum area of 25 percent openings, is permanently fixed and is made of durable materials or — using either existing dense vegetation or new planting.
Acoustic privacy • Site layout and building design: — protect habitable rooms from uncontrollable high levels of external noise and vibration — minimise the entry of external noise to private open spaces for dwellings close to high-noise sources (such as busy roads, railway lines and industry) — minimise transmission of sound and vibrations through the building structure.	• Site layout separates active communal recreation areas, parking areas, accessways and service equipment areas from bedrooms, and minimises the entry of high levels of external noise to dwellings. • Shared walls and floors between dwellings are constructed in accordance with the noise transmission and insulation requirements of the Building Code of Australia. • Bedrooms of one dwelling do not adjoin living rooms or garages of adjacent dwellings. • Dwellings close to high-noise sources (such as busy roads, railway lines and industry) are designed to locate habitable rooms and private open spaces away from noise sources and are protected by appropriate noise-shielding devices.(Refer to the relevant Australian Standard for noise and vibration)
Security • The site layout enhances personal safety and minimises the potential for crime, vandalism, and fear. • The design of dwellings enables people inside the dwelling to survey streets, public areas and approaches to dwelling entries. • Adequate lighting is provided for all pedestrian paths, accessways, parking areas and building entries. • Front fences and walls enable some outlook from buildings to the street for safety and surveillance.	• Shared pedestrian entries serve a limited number of dwellings and can be locked. • Buildings adjacent to public streets or spaces are designed to allow casual surveillance and should have at least one habitable room window facing that area.
	SEE AMCORD **Element 5.5 — Privacy, p. 166** **Element 5.9 — Security, p. 184** **Element 5.11 — Dwelling Entry and Interior, p. 198** **Element 5.13 — Housing on Traffic Routes, p. 204** **Practice Note PND 17 — Guidelines for Crime Prevention** **And for NSW see *Rail Related Noise and Vibration*, 1995, State Rail Authority of NSW.**

Element 5.5
Privacy

Need

There is a need to give significant consideration to privacy measures (both visual and acoustic), as adequate privacy has an important bearing on residents' satisfaction with a dwelling and on the attitudes of neighbours to a proposed development. If housing design provides inadequate privacy, residents may have to adapt by changing their living styles, modifying their behaviour or introducing visual screening. Such adjustments are not always easy and warrant making an effort to provide for privacy at the design stage.

Planning for privacy begins at the site planning stage, when the privacy needs of both residents and neighbours influence the location of dwellings and the placement of windows and private open space. It continues into the detailed building design stage with selection of materials and construction techniques to maximise privacy levels.

Protection Between Neighbours

Attitudes to privacy are, to some extent, affected by cultural factors and personal preferences. However, there are some shared perceptions of a range of privacy boundaries that should be protected. It is recognised that complete protection of privacy in closely developed areas is not always possible. Also, some people are happy to trade-off a high level of privacy for increased opportunities for the social contact associated with higher-density living.

Standards of privacy therefore need to balance the need for more intensive housing with the attainment of a reasonable level of privacy. This approach places an onus on adjacent residents to take supplementary action to secure their required level of privacy rather than requiring a new development to provide total protection of a neighbour's privacy.

A greater emphasis is placed on maintaining privacy between and in living areas and private open space than for bedrooms. The hours of occupancy of bedrooms and the ability to screen with curtains offset priority for privacy.

Visual Privacy

Visual privacy can be achieved by:

- layout that avoids overlooking
- screening
- separation or remoteness.

Many overlooking problems can be avoided at the design stage. Techniques such as directing the outlook from habitable rooms towards either the street or private open space, rather than towards adjacent dwellings or neighbours' private open space, help achieve a more neighbourly and private layout.

Close, intimate views can often be effectively screened although, for above-ground viewpoints, fixed screening can be difficult. Residents are also able to exercise some

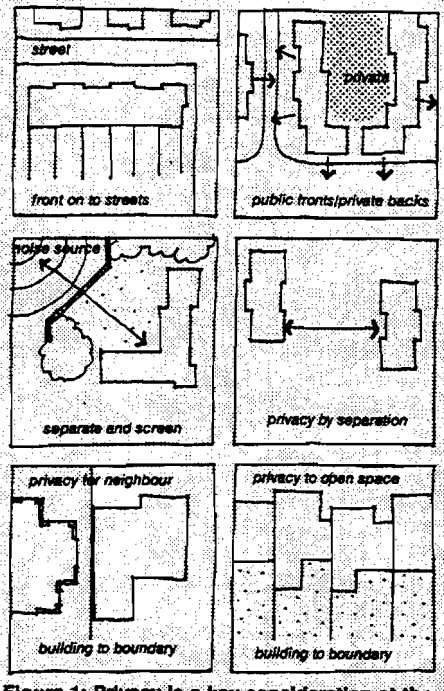


Figure 1: Privacy is a key consideration at the site planning and layout stage.

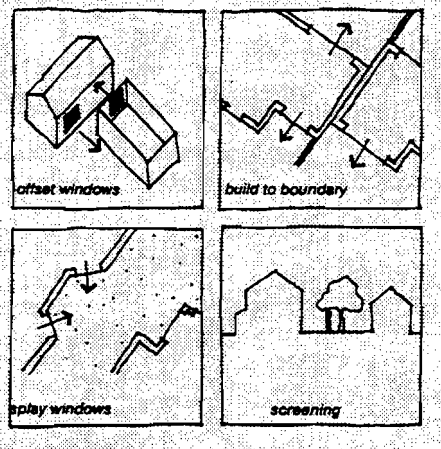


Figure 2: Locating windows to limit overlooking.

Element 5.5
Privacy

Intent

To site and design buildings to meet projected user requirements for visual and acoustic privacy, and to protect the visual and acoustic privacy of nearby residents in their dwellings and private open space.

Performance Criteria

The intent may be achieved where:

P1 The privacy of buildings and outdoor spaces is protected taking into account projected community expectations.

Visual privacy

P2 Direct overlooking of main internal living areas and private open spaces of other dwellings is minimised by building layout, location and design of windows and balconies, screening devices and landscape, or remoteness. Effective location of windows and balconies to avoid overlooking is preferred to the use of screening devices, high sills or obscured glass. Where these are used, they should be integrated with the building design and have minimal negative effect on residents' or neighbours' amenity.

Acceptable Solutions

The Acceptable Solutions illustrate ONE WAY of meeting the associated Performance Criteria.

Visual privacy

A2.1 Habitable room windows with a direct outlook to the habitable room windows in an adjacent dwelling within 9 m:

- are offset from the edge of one window to the edge of the other by a distance sufficient to limit views into the adjacent windows;
- have sill heights of 1.7 m above floor level; or
- have fixed obscure glazing in any part of the window below 1.7 m above floor level.

AND

A2.2 Outlook from windows, balconies, stairs, landings, terraces and decks or other private, communal or public areas within a development is obscured or screened where a direct view is available into the private open space of an existing dwelling.

If screening is used, the view of the area overlooked must be restricted within 9 m and beyond a 45° angle from the plane of the wall containing the opening, measured from a height of 1.7 m above floor level (see Figure 4).

No screening is required where:

- windows are in bathrooms, toilets, laundries, storage rooms or other non-habitable rooms and they have translucent glazing or sill heights of at least 1.7 m;
- windows are in habitable rooms and they have sill heights of 1.7 m or more above floor level or translucent glazing to any part of a window less than 1.7 m above floor level.

Exmple of AMCORD Design Elements

Neighbourhood planning and infrastructure

1 Neighbourhood planinng and movement networks

Element 1.1: Neighbourhood Design

- relates to large-scale residential development projects which require the input of a multi-disciplinary design team and often involve a diverse mix of land uses and residential development forms

Design issues include:

- site specific design response
- reinforcement of neighbourhood identity at focal points
- accessible, interconnected and safe street network
- interrelationships of land-use mix and density and movement networks
- minimise infrastructure costs
- lot layout and design to
  - maximise energy efficient design
  - accommodate a variety of housing
  - maximise accessibility to facilities and services
- well distributed and designed public open space
- environmental management
- integration with surrounding areas
- designing for safety and security
- designing for bushfire protection.

Element 1.2: Integrated Movement Networks

- the design and provision of the various movement networks in an integrated manner

Design issues include:

- provision of complementary public transport, pedestrian, bicycle, and street systems and networks
- street networks connected with external traffic routes
- well designed safe, and efficient movement networks.

Element 1.3: Street Networks

- specifically addresses the design of street networks

Design issues include:

- street designed according to function
- safe and convenient street networks
- provision for bus movements, walking and cycling
- street networks which take account of environmental conditions, streetscape, solar access and natural drainage and open space systems
- street network designed to:
  - not encourage through traffic
  - reduce traffic speeds and volumes
  - reduce traffic noise
- cost effective street networks and public utilities.

Element 1.4: Pedestrian and Cyclist Facilities

- specifically addresses the design of on-street and off-street pedestrian and cycle movement networks

Design issues include:

- provision of safe and convenient network of pedestrian ways and cycle routes.

Design Issues in AMCORD Design Elements

Element 1.5: Public Transport

- the inter-relationship of land uses and public transport and the provision of public transport services and facilities

Design issues include:

- linking residential densities with public transport services
- safe and convenient public transport systems and ancillary facilities.

Element 1.6: Public Open Space

- the supply and design of public open space within residential development projects

Design issues include:

- the multi-functional role of public open space
- creating a range of recreation settings

2 Physical Infrastructure

Element 2.1: Street Design and On-Street Carparking

- designing for the multi-functional requirements of streets

Design issues include:

- designing streets to accommodate various functions and requirements
- designing for safety
- provision of on-street car parking spaces

Element 2.2: Street Construction

- specific street construction requirements

Design issues include:

- designing the street for various functions

Element 2.3: Utilities

- the design and provision of the various physical infrastructure services

Design issues include:

- cost effective provision of public utilities
- use of suitable materials
- use of local effluent treatment plants and dual water systems where appropriate
- site facilities for recycling

3 Stormwater and Integrated Catchment Management

Element 3.1: Storm Drainage

- the design of major and minor drainage systems and broad-scale catchment management

Design issues include:

- the design of major and minor drainage systems to safely convey stormwater flows
- appropriate ground floor levels
- community benefits maximised
- appropriate selection of materials
- on-site drainage provision

Element 3.2: Water Quality Management

- specifically addresses stormwater quality management initiatives both during and following construction

Design issues include:

- construction phase measures
- optimum interception and retention
- minimal environmental impact
- continuation of a diversity of wetland environments
- identification and management of point source pollution

Design Issues in AMCORD Design Elements

Element 3.3: Stormwater Harvesting

- techniques for collecting, storing and treating stormwater for subsequent re-use

Design issues include:

- collection, storage, treatment and re-use of stormwater
- reduction of mains water use and downstream storm drainage
- use of constructed wetlands and aquifers for storage

Streetscape, Planning and Design

4 Streetscape and Neighbourhood Character

Element 4.1: Streetscape and Landscape

- public and communal streetscape issues

Design issues include:

- street, building and landscape design of public and communal streetscapes which are functional, attractive, safe etc

Element 4.2: Building Appearance and Neighbourhood Character

- the visual impact of residential development within established areas

Design issues include:

- buildings designed to enhance existing attractive built form character
- appropriate design and siting of garages

Element 4.3: Fences and Walls

- specifically addresses the influence of fences and walls on residential and streetscape character

Design issues include:

- outlook for safety and surveillance
- fences and walls to screen private open space and act as acoustic barrier
- highlighting of entrances
- enhancement of streetscape character

5 Site Planning and Building Design

Element 5.1: Site Planning

- broad site planning design issues

Design issues include:

- integration of site layout with surrounding environment
- site layout takes into account environmental features
- enhancement of personal safety
- accounting for climatic conditions

Element 5.2: Lot Layout

- the design inputs when creating individual allotments

Design issues include:

- lot size and dimensions to accommodate future building and site elements
- slope of the land and minimising earthworks
- protection of natural and cultural features
- provide for different housing needs
- orientate for safety and security
- orientate for microclimate benefits

Element 5.3: Street Setbacks

- specifically addresses street setback requirements and design considerations

Design issues include:

- enhancing existing or proposed streetscape character
- the location and design of carparks and garages

Element 5.4: Building Envelope and Siting

- design techniques for minimising the visual bulk of buildings and maximising opportunities for solar access to adjoining allotments and dwellings

Design issues include:
- reduction of bulk and overshadowing
- maximising privacy

Element 5.5: Privacy

- siting and design requirements to maximise visual and acoustic privacy

Design issues include:
- prevention of overlooking into adjoining dwellings and allotments
- minimising high levels of external noise

Element 5.6: On-site Carparking and Access

- the provision of and access to on-site carparking spaces

Design issues include:
- carparking provided according to projected needs
- safe, efficient and convenient carparking facilities and access
- dual use of carparking facilities
- suitable landscaping

Element 5.7: Private Open Space

- the provision and design of useable and functional private open space

Design issues include:
- clearly defined private open space
- functional comfortable and usable private open space

Element 5.8: Communal Open Space and Landscaping

- the provision and design of useable and functional communal open space

Design issues include:
- communal open space designed according to projected user needs
- retention of existing trees
- provision for on-site infiltration
- effective and durable landscaping and lighting

Element 5.9: Security

- both broader and site and dwelling specific design requirements to provide for personal and property security

Design issues include:
- casual surveillance
- clearly defined territory and appropriate lighting
- identification of "safe routes"
- complementary land uses
- appropriately designed landscaping and fencing

Element 5.10: Design for Climate

- building and site planning design requirements to minimise energy consumption and maximise water conservation

Design issues include:
- building design and siting to minimise energy consumption
- window design and shading
- orientation for solar collection
- appropriate building materials, appliances and fuel sources
- landscape design for microclimate management and water conservation

Design Issues in AMCORD Design Elements

Element 5.11: Dwelling Entry and Interior

- specifically addresses the design of dwelling entries and the internal dwelling layout to maximise individual identity, personal security and flexibility

Design issues include:

- dwelling entries designed and located for visibility, function and security
- dwelling layout design for surveillance and access by people with disabilities
- dwellings planned to minimise noise transmission, functional spaces, outlook from living areas, internal storage and convenient access from private open space

Element 5.12: Site Facilities

- the provision and design of ancillary site facilities such as garbage bin areas, storage facilities etc

Design issues include:

- appropriately designed and located garbage bin areas, mail boxes, external storage spaces, recycling facilities and bicycle parking facilities

Element 5.13: Housing on Traffic Routes

- site planning and dwelling design requirements for sites adjacent to major roads

Design issues include:

- siting of buildings to minimise noise intrusion and reflection and to provide convenient access
- siting and design of road and side boundary facing
- room layouts to reduce noise impacts
- location, design and treatment of balconies
- design and detailing of walls, windows, doors and roof to reduce noise intrusion
- building facade to reinforce residential character
- landscaping to provide sense of separation and be durable

Element 5.14: Bushfire Protection

- site planning and dwelling design requirements to minimise the level of risk of bushfires

Design issues include:

- building design and materials to maximise resistance to fires
- external sprinkler systems
- safe and secure water supply
- landscaping for fire protection
- site layout to create building protection zone
- provision of fuel modified buffer areas
- road layout, design and construction for emergency vehicles

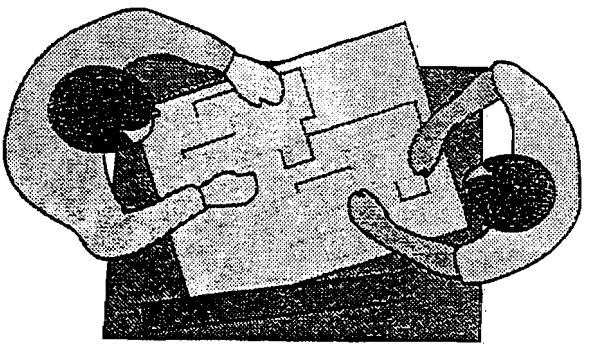
Section

2

Designing and Implementing Performance Based Residential Development

RAPI

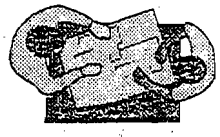
Preparing or adapting a Code or Plan



User's Guide

Preparing or adapting a Code or Plan

Summary



Overview

This section is concerned with 'setting the rules' within which residential development should take place.

As most councils already have a residential code, or zoning provisions, preparing ones which adopt a Performance Based (PB) approach will usually involve the revision or updating of the *existing* code or provisions, which may be based on prescriptive standards.

Usually, there will also be a state/territory source document to assist with drafting a local code. *AMCORD* could be used as a resource in the absence of a state/territory specific source document.

The structure should be based on the design elements or issues of the source document, when preparing a PB residential code or planning and design provisions. Attaining the intent or objective for each design element then forms the basis for the formulation of policies within the code.

2.1 The policy framework

The need for up front planning

Developing a framework

Part 1 of ***AMCORD: Setting the Context*** emphasises the need for a residential policy code to sit within and be derived from a broader planning framework. It outlines a way to clarify the scope for residential development through both strategic and development planning.

When a council adopts a code it is the culmination (in a policy sense) of a comprehensive research and consultation process, defining a desired future for a place and its community.

Without comprehensive and inclusive up-front planning it will be difficult, if not impossible, to define the specific policies that are required to guide future residential development.

Guidelines

It is not appropriate to elaborate on the techniques and models for up front planning for a region or area in this Guide. Read Part 1 of *AMCORD* and the Integrated Local Area Planning (ILAP) model.

Further information

See **Figure 2.1** and *References*

An essential element of this process is:

> "...the need to reinforce the link between the desired outcomes (determined through up-front planning) and the means of achieving them through development and design controls."
>
> — *AMCORD*, p.18

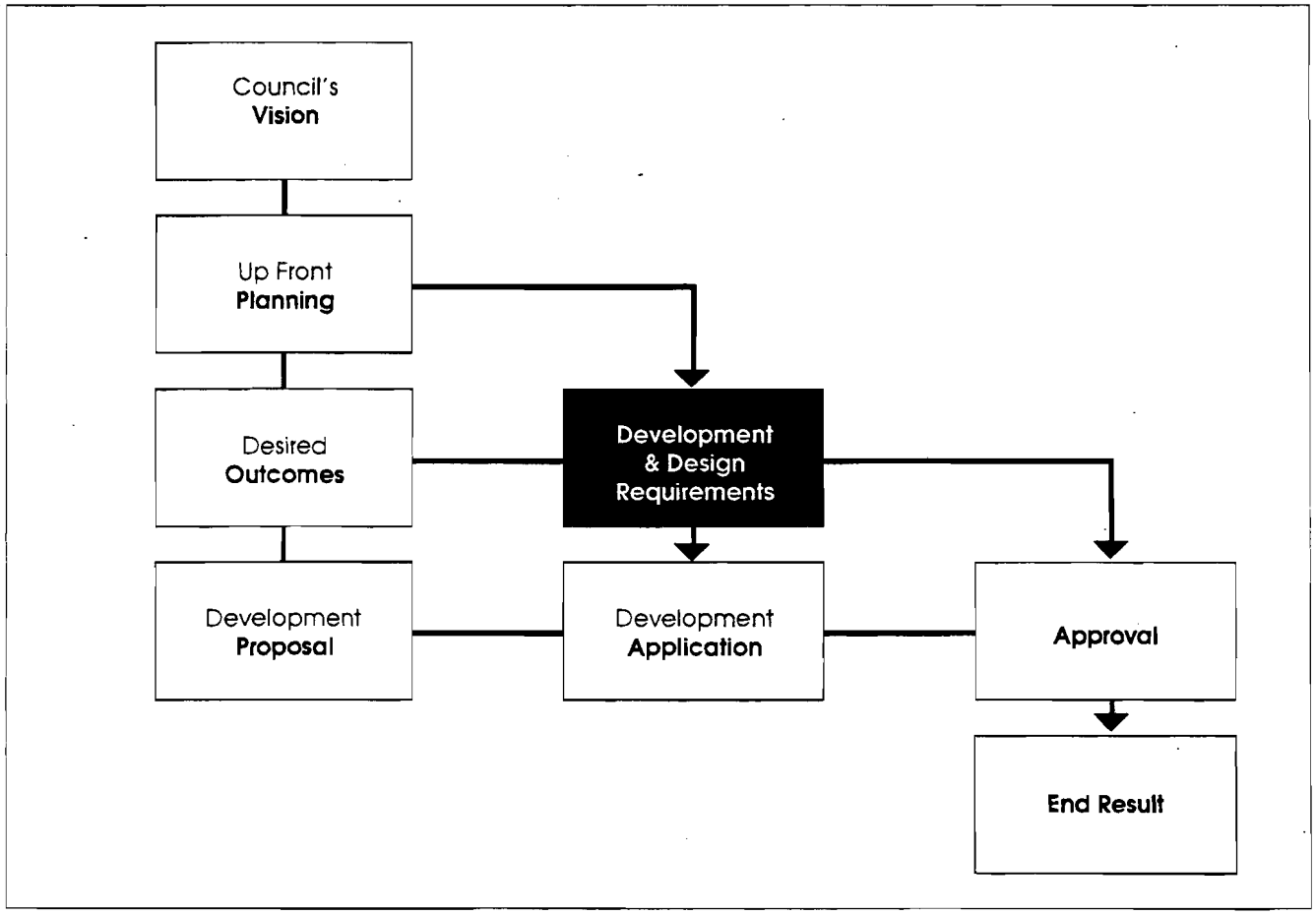


Figure 2.1 **An integrated planning system, linking desired outcomes, established by up-front planning, with design controls.**
Adapted from *AMCORD*, p.18

Well researched, widely consulted and agreed upon desirable outcomes are the foundation for the detailed policy formulation which follows. The policies, which include the Design Elements and their various components, are justified, informed and shaped by these desired outcomes.

Relationship to statutory framework

The preparation of PB codes for residential development needs to fit within the statutory context of a state/territory. It is essential that all the required statutory procedures are followed when drafting or amending a PB residential code.

The processes promoted in this document are not a justification for noncompliance with the existing statutory framework.

Local variations to the process

It is worth noting the difference in the adaptation and adoption processes of the various state and territory governments in relation to PB codes for residential development.

In 1996 the PB process was in its infancy, with the different states and territories deliberating on the various methods to be adopted. There is now a consistent approach, encouraging local policies which suit the prevailing conditions and community expectations for specific local areas. At the same time, consistency across metropolitan areas is encouraged as far as possible.

This reflects the basic philosophy and justification of PB approaches — namely, the encouragement of responsive design solutions which are specific to the site or area.

Making changes

This approach places the onus on those preparing the codes and plans to justify any changes they make to the provisions in *AMCORD* or to the equivalent state or territory version.

If consistency is achieved, then users — particularly builders, developers and designers — will be able to develop products and approaches that can be applied across local government boundaries.

If changes are proposed, retain as much of the AMCORD or state code material as possible, both in text and format, rather than wholesale rewriting.

Further information

AMCORD Section 1.2, pp. 17–19 provides additional advice on the adaptation process relating to up front planning.

2.2 Analysing an existing code

The need for analysis

Strategic planning on housing issues, either specifically or generally, may have identified shortcomings in the existing residential code provisions.

Alternatively, an existing code may identify special character areas (e.g. heritage, steep terrain, dense vegetation) which justify alternative design responses to those promoted in the source document. Regardless of the quality and comprehensiveness of the provisions of an existing residential code, there will still be a need to undertake a critical analysis of its contents.

Outcomes

The analysis should identify:

- **Missing items**
  Absence of a policy on any of the design issues referred to in the source document
- **Negative impacts**
  Specific policies that unnecessarily impact on housing affordability or diversity
- **Special considerations**
  Special character areas or issues requiring a specific policy
- **Successful models**
  Existing policies and 'standards' which have been operating successfully and could be suitably incorporated into a PB code
- **Inconsistencies**
  Areas or statements that are not consistent with the *AMCORD* approach or that of the source document.

2.3 Local variation and justification

Local conditions

Individual councils (or groups of councils collectively forming a logical geographic region) need to fine tune the model codes to reflect their area's local conditions, e.g. physical, environmental, social, cultural, economic and market.

AMCORD Section 2.2, pp. 59–60 provides advice on this process of adaptation.

The Victorian and NSW codes anticipate and encourage this process of local variation, particularly with respect to individual responses (*Acceptable Solutions* or *Techniques*) for satisfying the Intent/Objectives and associated Performance Criteria.

The broader design principles, then, are generally applicable to most development areas, but the means of achieving these outcomes may vary.

Guidelines

AMCORD Design and Development Practice Note 1: *Adapting and Using the Design Elements* suggests that modifications and/or additions to the Performance Criteria are *unlikely* to be necessary except in areas of high environmental sensitivity such as coastal areas.

The draft *TASCODE* document refers to "special consideration areas" and provides specific *Performance Criteria* and *Acceptable Solutions* for areas which are characterised as:

- historic precinct
- coastal village
- steep terrain.

AMCORD suggests the following process for adaptation of Performance Criteria to suit local conditions:

> "...
> - describing the characteristics of the local area, and the council's (or other administration's strategic planning objectives for the area (see Part 1 of *AMCORD*);
> - considering which provisions apply to the particular locality, or to specific areas within the locality, and those which are not relevant because of local characteristics;
> - considering the weighting that should be given to different elements arising from local characteristics and council's objectives; adding new provisions where this is necessary to ensure that development meets local objectives."
>
> – *AMCORD*, PND1, p.5

Justifications for variations

The greatest scope for local variation to any of the model codes should relate to the Acceptable Solutions or Design Suggestions or Techniques. This can be justified on a number of grounds including:

- **Gaps**
  Absence of solutions in the model code
- **Unsuitability**
  Inappropriateness of the solution contained in the code for a particular location
- **Example**
  Local experience of the successful adoption of particular solutions.

Accountability

Care needs to be taken that any locally derived solutions do in fact satisfactorily address the relevant Criteria. Accountability or justification is essential in this regard.

Any locally derived Acceptable Solutions must be thoroughly tested to see that they satisfy the relevant Criteria and their application to a range of development possibilities.

Guidelines

Resource material to the ***Victorian MDH Guide*** provides task-by-task guidance to preparing local variations to the Techniques in the Guide. The Guide suggests that such variations may be needed to:

> "...
> - vary densities in particular areas to achieve better strategic outcomes;
> - reinforce the particular existing character of an area (e.g. encouraging the conversion of an industrial area to residential);
> - introduce alternative car-parking requirements in areas prone to particular parking problems (e.g. around major institutions, on main roads, in proximity to shopping/ entertainment centres);
> - limit site coverage in areas with particular constraints (e.g. drainage, slope, vegetation)."
>
> — Ministerial Direction No. 8, 25 July 1995
> *Preparing Local Variations to Techniques of the Good Design Guide for Medium Density Housing*

Preparing variations

The resource material to the *MDH Guide* advocates the following process for preparing local variations:

The planning authority must show that:

1 **There is a soundly based strategic policy for the municipality**

a) Describe the strategic context of the municipality in which the application for local variation is made.

b) Identify, map and describe the locations which need a nonstandard approach.

c) Show the role of these areas in the Municipal Housing Strategy or other municipality-wide strategy for meeting the community's future housing needs.

2 **One or more parts of the municipality warrant special treatment**

a) Describe in each case the specific location, architectural, environmental, topographic, servicing, social or other feature or constraint which requires a special planning response.

b) Give details of the findings of any heritage, environmental, social, engineering or other study or analysis which supports the claim for special consideration.

c) Explain the policies and/or works which the planning authority has put in place so far to protect, improve or develop the special qualities or characteristics of such areas.

3 **The Guide creates conflict or unduly constrains development**

a) Identify the provisions in the Guide which create conflict with the special characteristics of the area(s) or which unduly constrain development, and demonstrate how and why in each case, using specific examples from the area concerned, or one like it elsewhere, to illustrate the argument.

4 **The variations will achieve the planning authority's policy objectives**

a) Set out the techniques proposed to replace those identified as creating problems, and explain how they will now be consistent with the planning authority's strategic policy and meet its objectives.

5 **The variations are consistent with the Guide objectives and criteria**

a) Demonstrate how each technique will meet the relevant Element objectives and criteria of the Guide.

6 **The changes have been canvassed with the community**

a) Conduct a special public consultation process and use the input from it to further support the planning authority's case (if desired).

b) Prepare and exhibit an amendment to the planning scheme to introduce the techniques proposed. Consider any resulting submissions through a panel process where required.

— Ministerial Direction No. 8, 25 July 1995, op. cit.

2.4 Codes for different types of development

Categorisation

The need

Most policies attempt to define particular design requirements according to the *type* (e.g. dual occupancy, detached) and *form* (e.g. multistorey) of residential development. Only rarely are all of the provisions of a model code going to apply to all types of residential development, although some provisions of Design Elements will.

To simplify the design and assessment process it is desirable to identify particular Design Elements and associated policies which are intended to relate specifically to a particular category of residential development.

The approach

This **categorisation** (see *AMCORD*, p.58 and PND1) can simplify the process by focusing on the specific and relevant design issues that apply to a category of development.

If categorisation is used, the categories of development must be selected with care.

It is generally preferable and more effective to categorise Design Elements for specific *forms of development* (e.g. subdivision, small in-fill housing project, large scale greenfields development) rather than *housing types* (e.g. detached, terrace houses, units, townhouses, etc.)

Figure 2.2 illustrates one example of categorising different *AMCORD* Design Elements for different forms of development.

TABLE 2: APPLYING AMCORD TO DIFFERENT CATEGORIES OF DEVELOPMENT

Categories of development:

A=large land subdivisions with internal road systems
B=smaller land subdivisions
C=integrated development of land and dwellings
D=single-dwelling houses on existing lots
E=dual occupancy development
F=other residential development, eg town houses, units and cluster housing
G=mixed development of dwellings with non-residential uses

	A	B	C	D	E	F	G
Element 1: Neighbourhood Planning and Movement Networks							
1.1 Neighbourhood Design	X	X	X				
1.2 Integrated Movement Networks	X	X	X				
1.3 Street Networks	X	X	X				
1.4 Pedestrian and Cyclist Facilities	X	X	X			X	X
1.5 Public Transport	X	X	X				X
1.6 Public Open Space	X	X	X				
Element 2: Physical Infrastructure							
2.1 Street Design and On-Street Carparking	X	X	X		X	X	X
2.2 Street Construction	X	X	X			X	X
2.3 Utilities	X	X	X			X	X
Element 3: Stormwater and Integrated Catchment Management							
3.1 Storm Drainage	X	X	X	X	X	X	X
3.2 Water Quality Management	X	X	X	X	X	X	X
3.3 Stormwater Harvesting	X	X	X	X	X	X	X
Element 4: Streetscape and Neighbourhood Character							
4.1 Streetscape and Landscape	X	X	X	X	X	X	X
4.2 Building Appearance and Neighbourhood Character	X	X	X	X	X	X	X
4.3 Fences and Walls			X	X	X	X	X
Element 5: Site Planning and Building Design							
5.1 Site Planning	X	X	X	X	X	X	X
5.2 Lot Layout	X	X	X			X	X
5.3 Street Setbacks			X	X	X	X	X
5.4 Building Envelope			X	X	X	X	X
5.5 Privacy			X	X	X	X	X
5.6 On-Site Carparking and Access			X	X	X	X	X
5.7 Private Open Space			X	X	X	X	X
5.8 Communal Open Space and Landscaping			X	X	X	X	X
5.9 Safety and Security	X	X	X	X	X	X	X
5.10 Design for Climate	X	X	X	X	X	X	X
5.11 Dwelling Entry and Interior			X	X	X	X	X
5.12 Site Facilities			X		X	X	X
5.13 Housing on Traffic Routes	X	X	X	X	X	X	X
5.14 Bushfire Protection	X	X	X	X	X	X	X

Figure 2.2: **Example of Categorising Design Elements**
(Source: *AMCORD, Practice Notes PND 1*, p.4)

2.5 Drafting documents

Integrity of source material

AMCORD and its derivative codes are based on extensive research and consultation amongst practitioners throughout Australia. The material has been developed over many years and has been tested in terms of its relevance to the development of all forms of housing via many demonstration projects.

Care has been taken in drafting *AMCORD* to ensure that there is an internal consistency between the Performance Criteria and the Acceptable Solutions for each Design Element.

In preparing and adapting codes, it is critical that any variations remain consistent with other sections of the code.

This requires detailed knowledge of the content of the entire code and detailed reviews to ensure such internal consistency.

Consistency of format

The format of *AMCORD* and its derivatives has also been tried, tested and developed over many years, and the final format has been endorsed throughout state and local government and the residential design and development industries.

The format of new codes based on AMCORD and its derivatives should retain the format of the parent document to facilitate the use of the code within the residential planning, design and development industry.

This consistency of format is particularly relevant for the drafting of Acceptable Solutions or their equivalent. It is important to relate these to the relevant Performance Criteria rather than leaving them loose as they were in the earlier *AMCORD* documents, *AMCORD Edition 2* and *AMCORD Urban.*

Terminology and language

The drafting of residential development codes is a challenge and drafting performance based residential codes is an even more demanding discipline.

It is worth referring to what *AMCORD* says on this matter:

> "Performance based regulation is weak if the drafting of regulations is not tightly disciplined.
>
> It can be confusing and ambiguous, expensive to administer, and decisions based on it may be vulnerable to legal challenge.
>
> It is essential that any local adaptation to *AMCORD* retain a clear and unambiguous approach, clearly stating what is required, and what solution will be considered satisfactory."
>
> – *AMCORD*, PND 1, p.7

The *terminology* or *language* used is also of critical importance.

A balance needs to be achieved between sending a clear, unambiguous message and retaining the necessary level of flexibility to encourage innovative and responsive design. Because the residential code will represent a legal document upon which proposals may be challenged and analysed in a court of law, the language used must be rigorous and attentive to possible legal interpretation.

Key characteristics

It is important in drafting a component of a PB code to continually refer back to the essential characteristics, namely:

- **Intent or Objective** — the main reference point in interpreting the performance criteria and the acceptable solutions.
- **Performance Criteria** — clearly defined statements of the desired end results, focusing on the end of the development process rather than the means.
- **Acceptable Solutions** — examples of how the performance criteria can be met, but which do not preclude other solutions and do not represent defacto minimum standards.

Using graphics

In addition to language and style aspects of drafting PB codes, it may be possible to use graphics and other information techniques such as tables, graphs, and photographs to convey more clearly the meaning, intent and interpretation of the various components of the Design Elements.

Figures 2.3 and 2.4 are examples of how graphics can result in more 'user friendly' and informative documents.

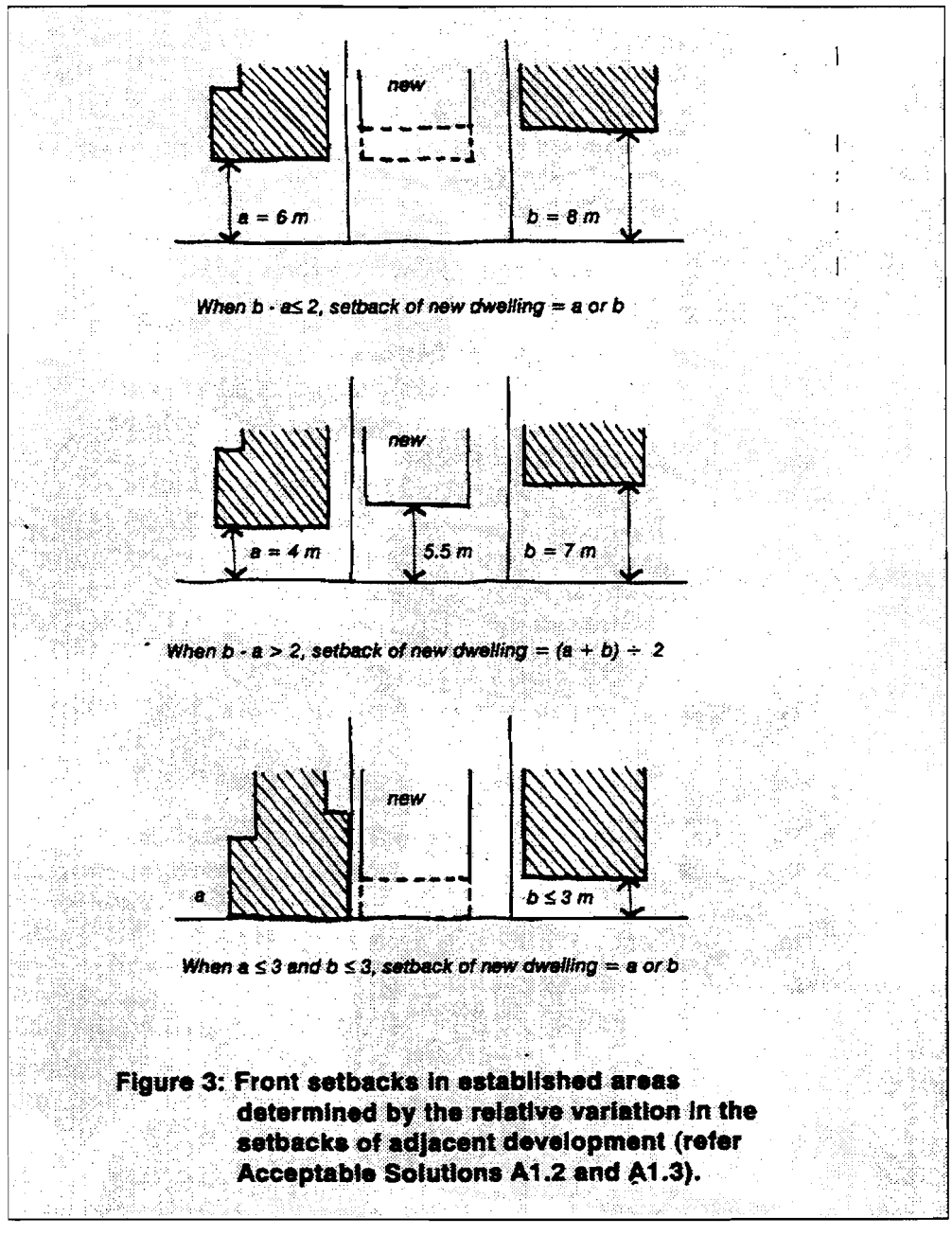


Figure 2.3 **Example of graphic material to be included in Residential Codes**
Source: *AMCORD, Design Elements 5.3*, p.158

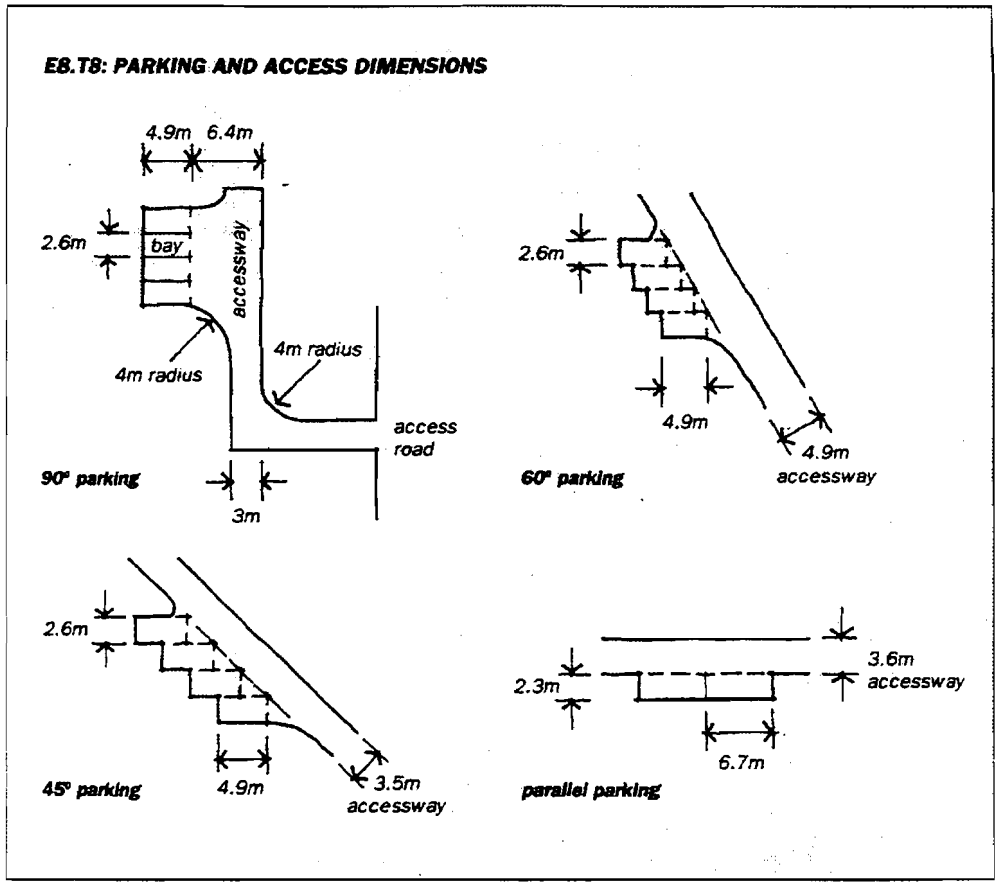


Figure 2.4 **Example of graphic material to be included in Residential Codes**
Source: *Victorian Good Design Guide for Medium Density Housing*, p.E8-T: 3 of 5

2.6 Research, monitoring and review

Encouraging best practice

The Federal and most state governments, together with many local government authorities, are encouraging *responsive* residential design and development.

Initiatives such as those under the umbrella of *AMCORD* promote best practice in residential development. Demonstration projects, research and the dissemination of information are high on the agenda of such promotional strategies.

Role of councils

A systematic approach to the promotion of innovation in residential design by councils involves:

- **Research** — to identify the particular innovation or design solution applicable to a council area, locality or form of residential development
- **Implementation** — to demonstrate the practical application of the innovation or design solution (e.g. demonstration project)
- **Monitoring/testing** — to identify the effectiveness of the innovation or design solution over time (e.g. post occupancy survey)
- **Dissemination** — to promote the broader adoption of the innovation or design solution (e.g. workshops, practice notes)

Encouraging innovation in design and construction techniques and monitoring the effectiveness (the meeting of performance criteria) of built examples is important in the implementation of a PB approach to residential design and development.

Monitoring

The effectiveness of the design solutions promoted in the code of a council will need to be monitored to see if they are applicable to other development sites.

The demonstrated success of a particular innovation may encourage the acceptance of that innovation by others in the industry. In turn, these successful design approaches may be incorporated into the residential code as an Acceptable Solution for a particular Performance Criteria.

Local government initiatives

Local government can contribute to the ongoing initiation, monitoring and promotion of innovative and responsive residential design and development by:

- **Initiating joint venture developments with the private sector for innovative housing projects.**

  Council makes the land available and the joint venture partner provides the design, development and marketing expertise and financing requirements of the project.

- **Conducting post occupancy surveys.**

  Council surveys residents of innovative housing projects to identify the level of satisfaction, the effectiveness of particular innovations, and opportunities for improvements.

Continuing improvement

A performance based code is not a static document.

It should be seen as subject to continual change and evolution as new innovations and solutions are tried and tested. To some extent this is in conflict with its statutory role.

However, one of the primary justifications for pursuing a Performance Based approach — the encouragement of innovation in residential design — should never be lost.

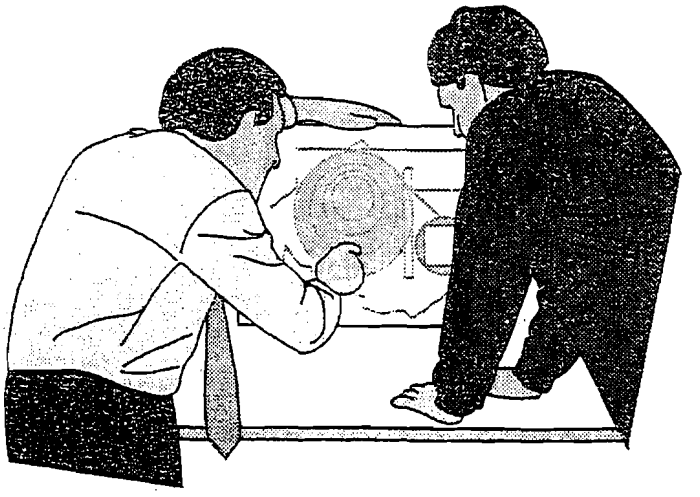
Section

3

Designing and Implementing Performance Based Residential Development

RAPI

Designing Residential Projects



User's Guide

Designing Residential Projects

Summary of the steps

3.1 Identify the residential project type

3.2 Check zoning and density requirements

3.3 Analyse the site

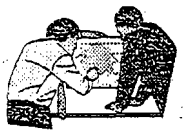
3.4 Seek design advice

3.5 Select design elements

3.6 Prioritise design issues

3.7 Prepare and review a concept design

3.8 Complete a detailed design



Overview

A New Design Process

To gain the full benefits of using a performance-based approach in the design of residential projects, changes to the traditional design process are required.

The performance-based approach provides for flexibility in design response, so a range of design processes can be adopted.

The process presented in this section is a basic guide. This can be modified and adapted to suit the type of development and the different council requirements and processes.

The process is presented sequentially here, but designing residential projects generally requires some previous tasks to be revisited following feedback and review of outcomes.

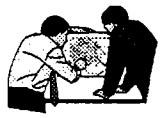
Going Further

Each state/territory government and local authority will have its statutory and informal consultation and notification procedures for different categories of residential development.

This section encourages applicants to move beyond these standard processes by:

- liaising with affected neighbours;
- maintaining a close and ongoing relationship with council officers from the beginning of the design process.

3.1 Identify the residential project type



What to consider

The broad nature of the development of a site is usually decided at the start of a residential project.

The decision will be based on a variety of factors such as:

- initial understanding of council zoning requirements
- the project profitability/viability
- the particular expertise of the developers
- market considerations
- the broad site and neighbourhood characteristics.

Marketing and affordability considerations are integral components of the design process and should influence it from the beginning of the process.

Integrated approaches

Integrated housing and development approaches are encouraged for a wide range of housing objectives.

Integrated housing

A form of development where:

- housing is planned, designed and built by the same developer/builder
- a developer undertakes the site planning and development as well as establishing detailed requirements for building designs, without actually constructing the dwellings.

Integrated development

Differs from integrated housing in that:

- the housing is not constructed or
- detailed requirements for building design are not incorporated.

That is, only the physical infrastructure is designed and developed in an integrated manner.

3.2 Check zoning and density requirements

What to consider

Zoning provisions usually outline:

- the types and form of residential development envisaged in an area
- density parameters
- the built form and landscape character envisaged for the area.

Determining yields

Allotment or dwelling yields can generally be calculated by liaising with council officers and/or using the zoning provisions that apply to the particular parcel of land.

Some councils are defining both maximum and minimum required densities, which makes it important for designers to understand the particular definition of density being used. However, maximum potential yield will also be influenced by the particular site characteristics.

For example:

Site features

Steep, vegetated or irregular shaped allotments may limit the allotment or dwelling yield.

Facilities required

The need for on-site facilities such as stormwater management devices may limit the area of land available for housing.

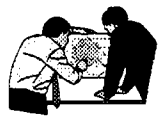
Clearly, the establishment of a suitable density will be influenced by the site analysis, as outlined in Section 4.

Obtaining other Information

Early liaison with council officers will also reveal:

- any details regarding the desired future neighbourhood or streetscape character
- other considerations that should be taken into account during the design process
- details of the assessment process
- any information requirements for a development proposal.

3.3 Analyse the site



Context

One of the most effective ways of improving the quality (and minimising the negative impacts) of a housing project is to establish its development context before the site planning and design phase.

The development context includes four key aspects:

- the planning and development intentions for the site
- the relationship of the site to the local community
- the relationship of the site to adjoining properties
- the physical characteristics of the site.

Outcomes

The Draft *NSW Code* advocates that councils establish the desired future neighbourhood character for different areas through research and community consultation. These **desired outcomes** must be clearly established so that performance based codes can operate effectively.

The draft *NSW Code* states that the site analysis should be used to:

> "...
> - assess how future dwellings will relate to the immediate surroundings, and to each other;
> - produce a design that minimises the negative impact on the amenity of adjoining developments, and fits the vision the community and the council have for their neighbourhood."
>
> – Draft *New South Wales Code*, p.5

Importance and scope

The site analysis process is critical in refining and shaping the eventual development response.

The analysis enables both on-site and off-site constraints and opportunities to be identified. Once documented, it is an important communication tool for all interested parties.

Using the analysis, the assessor and other interested parties (such as adjoining neighbours) can clearly recognise the influences on the design and so understand the reasons behind particular design choices.

The amount of detail and the extent of the locality considered in a site analysis and resulting **Site Analysis Plan** will vary depending on the nature of the development, the size of the site and the prevailing context.

For example, large projects may need to consider the wider impacts and opportunities for the precinct, the neighbourhood or even the district.

Analysing the site

Site analysis should include the following documentation for the **site**:

Site Analysis Checklist

- ❒ contours
- ❒ existing vegetation
- ❒ buildings (including any that could be retained)
- ❒ views to and from the site
- ❒ access and connection points
- ❒ drainage and services
- ❒ orientation
- ❒ microclimate
- ❒ noise sources
- ❒ contaminated soils and filled areas (where relevant)
- ❒ fences, boundaries and easements
- ❒ any other notable features.

See also Figure 3.1 opposite.

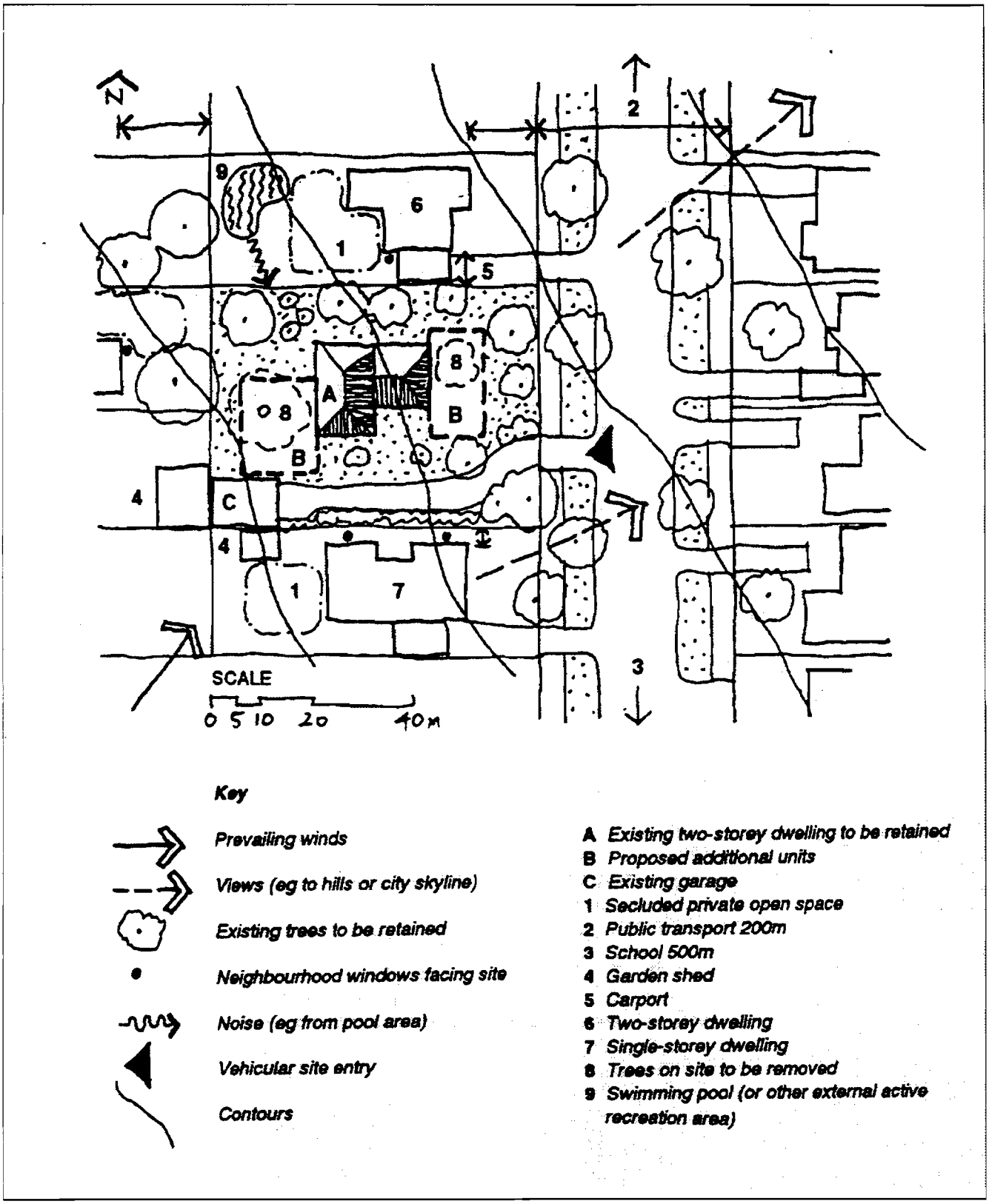


Figure 3.1 **Typical Site Analysis Plan for Infill Housing Site**
Source: *AMCORD*, p.64

Analysing the surrounds

The following information about the **surrounds** is required:

Checklist of the Surrounds

- ❒ the location and use of adjacent and opposite buildings and outbuildings
- ❒ abutting private open spaces and habitable room windows which have outlooks towards the site
- ❒ views and solar access enjoyed by adjacent residents
- ❒ major trees on adjacent properties
- ❒ location and height of walls built to the site's boundary
- ❒ characteristics of any adjacent public open space
- ❒ street-frontage features such as service poles, street trees, kerb crossovers, bus stops, services
- ❒ the built form and character of adjacent and nearby development, including characteristics of fencing and garden styles
- ❒ direction and distances to local shops, schools, public transport, parks and community facilities
- ❒ difference in levels between the site and adjacent properties.

Making contact

During the site analysis, early contact should be made with adjoining and nearby neighbours, depending on the nature and scale of the proposed development and its relationship to adjoining properties.

This will help identify any particular concerns or issues to consider when determining a suitable design response for the site.

Such early contact will:

- ✓ facilitate the preparation of the site analysis plan
- ✓ provide neighbours with the opportunity to contribute to the design process
- ✓ often result in an easier passage for the application through the planning process
- ✓ help prevent trouble, aggravation and soured relationships later in the process.

Summary

The site analysis plan represents an important tool in identifying priority design issues.

It may also identify the need to use professional practitioners of various disciplines to do their own site analysis and contribute their findings to the overall site analysis plan.

3.4 Seek design advice

Areas of professional advice

Depending on the nature and extent of residential development being considered, there may be a need to use professionals from a range of disciplines during the project design phase.

Large projects

Projects comprising large scale subdivision of broadacre land or large infill projects require a **collaborative approach** involving the input and expertise of professionals in the fields of:

- integrated housing development
- urban planning and design
- community and social planning
- traffic and transportation planning
- stormwater management
- infrastructure planning and design
- landscape design
- subdivision design.

Small projects

Small scale infill residential projects require design input for:

- site planning issues
- building design
- landscape design
- (possibly) stormwater and wastewater management.

Special needs

Development proposals in areas of special or distinctive character (such as historic character areas) may require specialist advice about designing the external appearance of the development so that it complements the streetscape and the built form character of the area.

3.5 Identify design elements

Design elements

*The **Design Elements** applicable to the particular category of development should now be identified.*

It is preferable to assess the relevance of **all** Elements to the development right from the start. In some cases this will have already been done by the council and either contained in their residential code or presented as information guidelines. If not, the designer must choose the Design Elements considered relevant to the development proposal, preferably together with the assessor.

The types of proposals below require variations on the mix of Elements to be considered:

Example A
Single house on small allotment

The relevant Design Elements will be those concerning:

1 Site Planning and Building Design

2 Stormwater and Integrated Catchment Management (i.e. Stormwater Harvesting Design Element only)

3 Streetscape and Neighbourhood Character

Example B
Subdivision (not involving integrated housing development)

The relevant Design Elements will be those concerning:

1 Neighbourhood Planning and Design

2 Physical Infrastructure

3 Stormwater and Integrated Catchment Management

4 Streetscape and Neighbourhood Character

5 Some elements of Site Planning and Building Design (e.g. Lot Layout, Safety and Security, Design for Climate, Housing on Traffic Routes and Bushfire Protection.)

Further information

Figure 2.2 in Section 2 (page 49) and **Appendix 1** provide further guidance on the categorisation of Design Elements from *AMCORD* and the *Victorian Code for Residential Development.*

3.6 Prioritise the design issues

Using the Site Analysis

The prioritising or weighting of design issues involves selecting issues which are more relevant or of greater importance in the context of the specific development being considered.

The weighting process should be informed by the preceding site analysis.

When the site analysis and documentation have been completed, it should be evident which design issues or Elements are more pertinent and applicable to:

- the specific site conditions and characteristics
- the category and form of development proposed.

In cases where it is difficult to satisfy all relevant objectives and performance criteria, the weighting process will assist in determining any appropriate trade-offs between critical components.

Weighting Elements

The weighting process should be conducted in conjunction with pre-design discussions with:

- council staff (and possibly elected members)
- any affected neighbours.

Their involvement at this stage of the design process may avoid subsequent delays which could occur through misreading the importance of certain design issues.

AMCORD guidelines

AMCORD suggests that as a general rule the appropriate weighting to be applied within Design Element categories should be:

> **(Priority) 1** relating to community safety and wellbeing
>
> **(Priority) 2** relating to safety and comfort of the development's occupants
>
> **(Priority) 3** dealing with the relationship of a development to its surroundings
>
> **(Priority) 4** dealing with the internal arrangements on site.~
>
> – *AMCORD Practice Notes*, PND 1, p. 5

Further information

Figure 3.2 (next page) indicates how weighting can be applied to different Design Elements.

AMCORD Practice Note Design 1 includes a more detailed discussion of weighting.

TABLE 3: WEIGHTING TO BE APPLIED TO DIFFERENT ELEMENTS

	weighting				
	1	2	3	4	Potential trade-offs
Element 1: Neighbourhood Planning and Movement Networks					
1.1 Neighbourhood Design	X				no trade-offs
1.2 Integrated Movement Networks	X				no trade-offs
1.3 Street Networks	X				no trade-offs
1.4 Pedestrian and Cyclist Facilities	X				
1.5 Public Transport	X				some trade-offs may be necessary
1.6 Public Open Spaces	X				trade-off with 5.8
Element 2: Physical Infrastructure					
2.1 Street Design and On-Street Carparking	X				trade-off with on site parking 5.6
2.2 Street Construction	X				no trade-offs
2.3 Utilities	X				no trade-offs
Element 3: Stormwater and Integrated Catchment Management					
3.1 Storm Drainage	X				
3.2 Water Quality Management	X				
3.3 Stormwater Harvesting	X			X	not required at the expense of other criteria
Element 4: Streetscape and Neighbourhood Character					
4.1 Streetscape and Landscape			X		trade-offs should not be necessary
4.2 Building Appearance and Neighbourhood Character			X	X	possible trade-offs against category 2
4.3 Fences and Walls			X		possible trade-offs against 5.5 and 5.13
Element 5: Site Planning and Design					
5.1 Site Planning	X		X		no trade-offs
5.2 Lot Layout		X			some trade-offs if a large majority of lots meet all the criteria
5.3 Street Setbacks			X		possible trade-offs against category 2
5.4 Building Envelope			X		possible trade-offs against categories 1 and 2
5.5 Privacy		X			trade-offs should not be necessary
5.6 On-Site Carparking and Access				X	trade-offs identified with 2.1 and 1.5
5.7 Private Open Space				X	trade-offs for mixed use and infill development, in favour of other amenities
5.8 Communal Open Space and Landscaping				X	possible trade-offs against category 2
5.9 Safety and Security		X			trade-offs should not be necessary
5.10 Design for Climate	X	X	X	X	some trade-offs possible eg for infill development
5.11 Dwelling Interior				X	trade-offs possible against other amenities
5.12 Site Facilities				X	trade-offs possible against other amenities
5.13 Housing on Traffic Routes		X			no trade-offs in these locations
5.14 Bushfire Protection	X				no trade-offs in these locations

Figure 3.2 **Example of Weighting of Design Elements**
Source: *AMCORD, PND 1*

Sample weighting

Figure 3.3 shows a table of weighting included in the draft NSW Code.

The draft Code notes that the table provides a general idea of the *relative* importance of Design Elements and their components. (The example applies to multi-unit housing development only). The table is to be used only as a guide, because *"... there will be individual site circumstances or council imperatives which may change the importance of components."*

DRAFT NSW CODE

TABLE 1. WEIGHTING OF DESIGN ELEMENTS

Design element	Component	Weighting guide		
		Critical	Important	Recommended
Streetscape	• Streetscape	✔		
	• Building appearance and heritage	✔		
	• Street setbacks	✔		
	• Fences and walls			✘
Energy efficiency	• Solar access and orientation	✔		
	• Building materials and landscape		✔	
	• Ventilation		✔	
Bulk and scale	• Visual bulk	✔		
	• Walls built to boundaries		✘	
	• Daylight and sunlight	✔		
	• View sharing			✘
Privacy and security	• Visual privacy	✔		
	• Acoustic privacy	✘		
	• Security		✔	
Site access and circulation	• Public transport		✔	
	• Car parking provision		✔	
	• Circulation	✔		
Water management	• Site drainage	✔		
	• Stormwater harvesting			✘
	• Water conservation		✔	
Open space and landscaping	• Private open space			✔
	• Communal open space and landscaping		✘	
Site facilities	• Waste disposal	✔		
	• Other site facilities		✔	

Levels of importance to the site planning:

1. Critical 2. Important 3. Recommended

Note: the '✘' is written when weighting will depend on the site conditions. For example, acoustic privacy may not be relevant for all sites. However, when noise is an issue it will be critical for design.

Figure 3.3 **Example of Weighting of Design Elements for a Townhouse**
Source: *Draft NSW Code: A Draft Guide to Performance Codes for Multi-Unit Housing, p.7*

3.7 Prepare and review a concept design

Concept design

For larger or more complex projects, a **concept design** (or sketch design) is recommended to convey the major features of the development.

Costly redesign work at the detailed design phase can often be avoided by initially preparing and reviewing a concept design.

Contents

Concept design plans usually illustrate indicative site layout, floor plans and elevations.

To commence the concept design, the following information is needed

- the form of development
- all constraints and opportunities
- density requirements
- relevant design inputs
- priorities placed on addressing certain design issues/performance criteria.

Making links

The designer also needs to consider the interrelationship between the various components of the development project, as well as relationships with adjoining land. Potential conflicts can then be reconciled and any positive relationships enhanced.

Providing options

It is sometimes preferable to formulate a number of site planning options as a basis for further discussions with council representatives and neighbours and for feasibility analysis requirements.

Council and neighbour review

Having prepared the concept or sketch plans it is recommended that these be reviewed as part of negotiations with adjoining residents and the council.

Participants and issues

The review of the concept design can involve:

- **Council staff**
  Consultation with council staff to obtain feedback on the concept design and any possible modifications and improvements
- **Agencies**
  Consultation with relevant state/territory agencies
- **Neighbours**
  Discussion with affected neighbours to ascertain any potential concerns
- **Marketing**
  Analysis of the marketability of the development concept
- **Finances**
  Financial analysis to determine the viability of the development concept.

3.8 Complete a detailed design

Finishing

The outcomes of the review process can be used to refine and modify the development concept.

Detailed design plans can then be prepared ready to lodge with the planning authority.

Content

The type and level of detailed information to be prepared and submitted to the planning authority will vary according to:

- **Development type**
  The form and scale of development proposed.

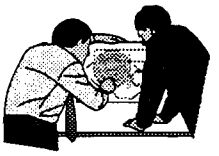
- **Complexity**
  The complexity of design issues that need to be resolved and communicated to the planning authority and other interested parties.

- **Regulations**
  any requirements of the planning authority or state/territory regulations.

Factors to be considered when preparing an application are covered in ***Section 4.***

Section

3



Appendices

Appendices

1 *Example of categorisation from VicCode*

Appendix 1 *Examples of categorisation from VicCode*

Figure 1 Key site-related design elements

- *E1 Lot size and orientation;*
- *E2 Building siting and design;*
- *E3 Private open space;*
- *E4 Vehicle parking;*
- *E8 Streetscape;*
- *E12 Drainage network.*

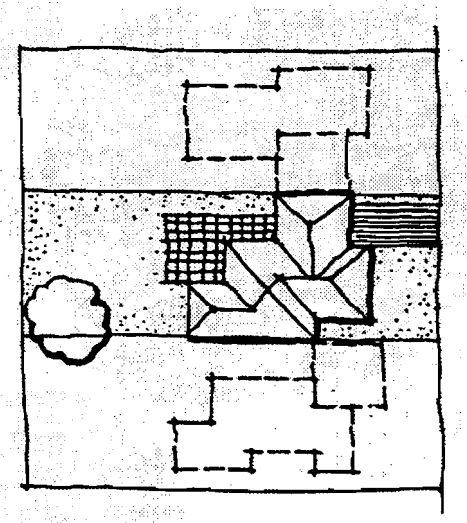
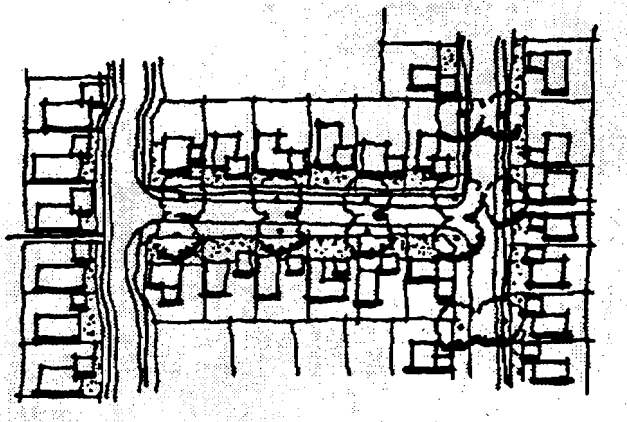


Figure 2 Key precinct-related design elements

- *E1 Lot size and orientation;*
- *E4 Vehicle parking;*
- *E5 Public open space;*
- *E6 Movement network;*
- *E7 Pedestrians and cyclists;*
- *E8 Streetscape;*
- *E9 Street design;*
- *E10 Street construction;*
- *E11 Utilities provision;*
- *E12 Drainage network.*



Source: *Victorian Code for Residential Development – Subdivision and Single Dwellings*, April 1992

Figure 3 Key neighbourhood-related design elements

- *E0 Community design;*
- *E1 Lot size and orientation;*
- *E5 Public open space;*
- *E6 Movement network;*
- *E7 Pedestrians and cyclists;*
- *E11 Utilities provision;*
- *E12 Drainage network.*

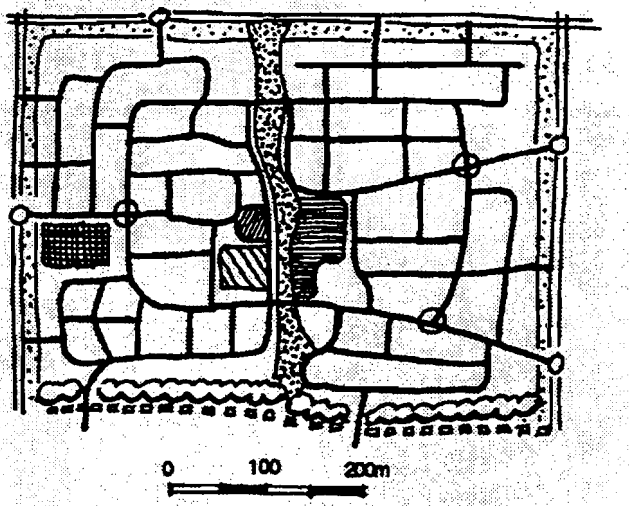
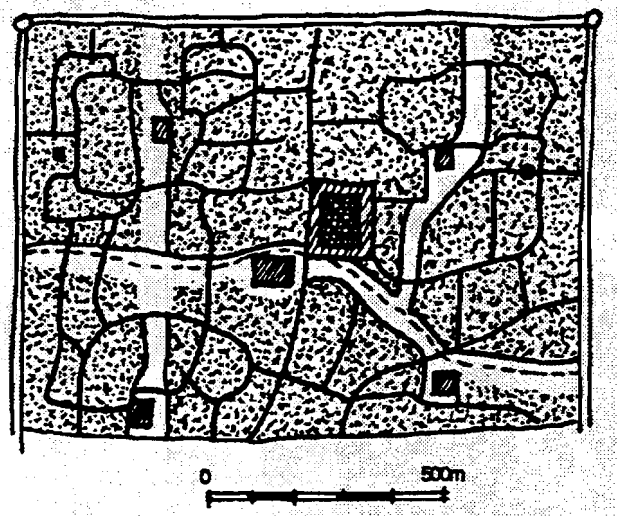


Figure 4 Key district-related design elements

- *E0 Community design;*
- *E5 Public open space;*
- *E6 Movement network;*
- *E7 Pedestrians and cyclists;*
- *E11 Utilities provision;*
- *E12 Drainage network.*



Source: *Victorian Code for Residential Development – Subdivision and Single Dwellings*, April 1992

Section

4

Designing and Implementing Performance Based Residential Development

RAPI

Preparing an Application

User's Guide

Preparing an Application

Summary

Overview

This section outlines the procedures and components required to successfully prepare an application for residential development using the performance based approach.

4.1 The decision-making process

Communication

Key parties

The effectiveness of PB design and decision making is heavily dependent on the understanding and communication between participants in the process.

This particularly applies to:

- the applicant
- the council (and other relevant agencies)
- neighbours who are (or believe they are) affected by a proposal.

Special features

The PB approach has certain distinctive characteristics, including:

- **Consultation**
  The need for appropriate communication and consultation
- **Agreed processes**
  Negotiation and mediation at all stages of the process
- **Analysis**
  The importance of the site analysis
- **Prioritising**
  The weighting given to relevant design issues.

These features are illustrated in **Figure 4.1.**

Documents

It is important to align all the key documents in the PB approach, such as:

- ✓ code/planning and design provisions
- ✓ site analysis
- ✓ information contained in the development application
- ✓ the development assessment report.

This alignment is critical to ensure that the approach adopted in a particular project is fully understood by all the participants in the design and approval process.

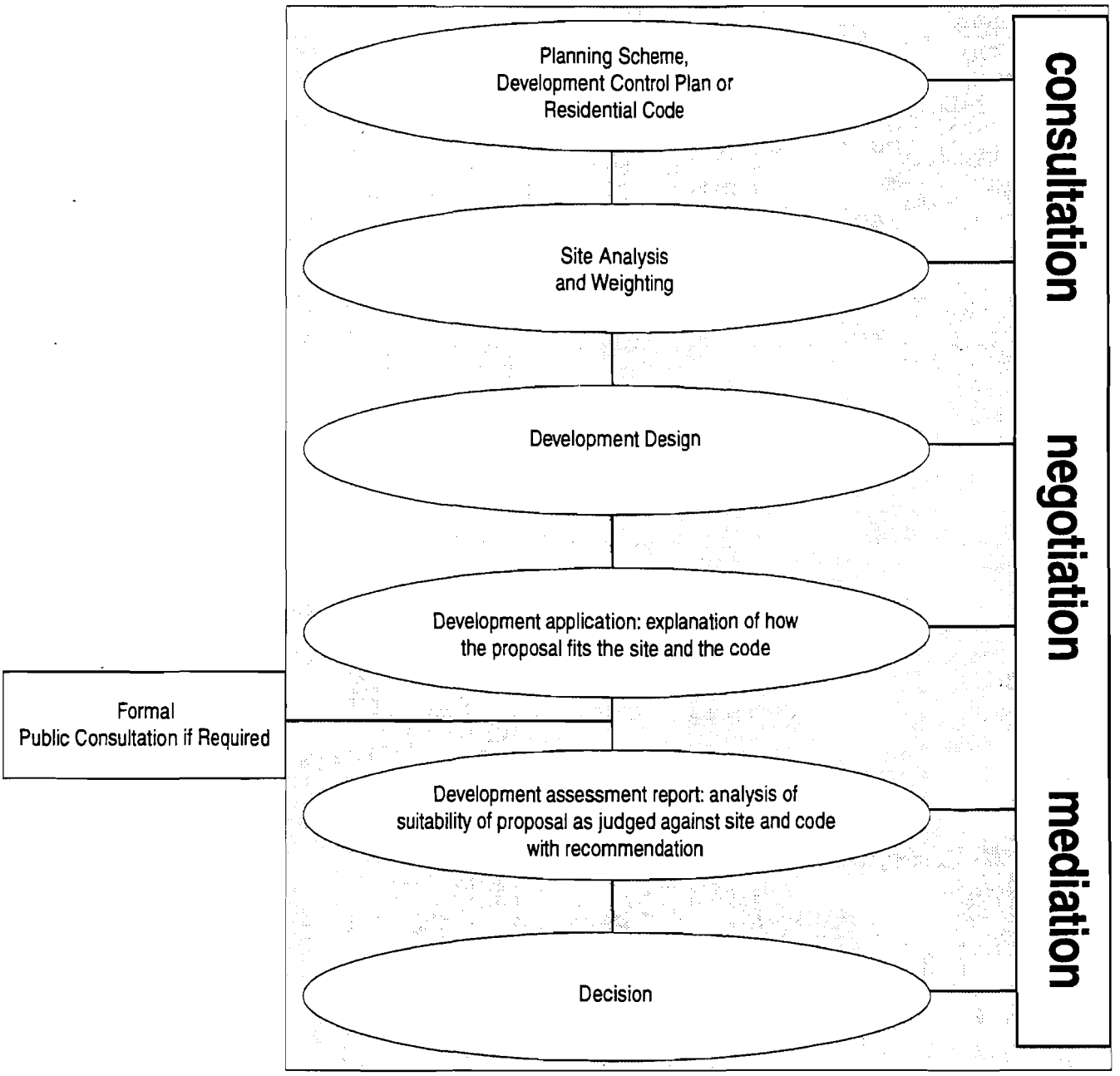


Figure 4.1 **Performance Based Design and Decision Making**

Project documents should:

- ✓ be consistent
- ✓ cover the same issues
- ✓ use similar language and terminology.

4.2 Application requirements

Introduction

This section deals with the requirements for development applications.

Guidelines

As councils improve their processes for determining an application, they are able to provide specially designed materials to help the public to understand what is required and to streamline the process.

Information of this kind is often contained in those existing codes which have a strong performance theme. However, many of these guidelines are only checklists of the *facts* which need to accompany the application.

Describing interpretations

These checklists need to be supplemented by a statement as to how the applicant has *interpreted the requirements of the code* in relation to site characteristics and the nature of the proposal.

In particular the designer should *state what weighting has been given to various design issues* in the light of the site and locality characteristics.

The trade-offs between these considerations should be described and justified. Sufficient information, analysis and argument should be provided for an assessor to understand why particular design decisions have been made.

What to include

General

Practice Note PND 2 of *AMCORD* contains advice on information for development applications (See Figure 4.2 on page 86).

Information to support applications should include some or all of these elements:

- description of the neighbourhood context
- a site analysis
- the site development plan
- a landscape plan
- a concise report.

Multi-dwelling design

Practice Note PND 11 provides a **Multi-dwelling Design Checklist**, a "list of topics ... as matters for consideration and not as a definitive list of requirements."

The topics listed are:

- image and legibility
- access and entries
- parking and services
- private open space
- communal open space and landscaping
- children's needs
- youth and adult social needs
- security
- internal dwelling design
- environmental sensitivity
- cost effectiveness
- trade-offs

Environmental statements

The *Draft NSW Code* refers to the need to prepare and submit a *Statement of Environmental Effects* in accordance with the requirement of the Environmental Planning and Assessment Act 1979, which must:

- demonstrate that consideration has been given to the environmental impact of the development
- set out any measures that have been taken to mitigate any likely adverse environmental impact
- explain specifically how the project design has responded to the information contained in the Site Analysis.

Similar provisions may exist in other states and applicants need to check these details with state planning authorities.

Where any criteria within the code have not been satisfied, the applicant needs to demonstrate (by referring to relevant objectives) that the intent of the criteria has been satisfied.

Practice Note PND 2
Development Application Information

Scope

The type and detail of information to be provided with a development application will depend upon such factors as the scale and intensity of development as well as the complexity and location of the site. In all cases, the aim should be to provide clear and comprehensive information that will assist the responsible authority in assessing the proposal. Demonstration of how the design criteria are met, particularly where the Performance Criteria are used, will usually speed up the application.

Consultation Prior to Submission

Applicants are encouraged to discuss their proposal with council officers at the early concept stage. Where appropriate, consultation with neighbours and, in some instances, the wider community may be required.

Development Information

The Design Elements in AMCORD provide for the submission of certain types of information as part of the development application. The notes that follow are an indication of the content and level of detail that councils may consider in determining the submission requirements related to:

- Site analysis;
- Site development plan;
- Landscape plan.

Site analysis
While not all authorities currently require submission of a site analysis, it is an important step in the design process for a successful development. A site analysis enables assessors to appreciate the site and the designer's intent more clearly. It also assists in identifying the relationship of the site to adjacent properties and in testing whether the proposed development recognises any constraints that may apply.

It is recommended that additional information be provided where new developments are proposed in established streets. Much of this information would normally already be included as part of the site analysis.

Site development plan
The site development plan conveys the design concept for the site. While the emphasis is on new public streets, it should be remembered that shared driveways internal to the site are regarded as communal streets that also create a streetscape. AMCORD provides for greater design flexibility for communal streetscapes where other parties also have an interest in the design outcome.

Landscape plan
AMCORD encourages the submission of a preliminary landscape plan at the planning approval stage and a detailed landscape plan at the building approval stage. This recognises the critical relationship between the siting and design of buildings, and the location, definition, spatial quality and usability of open space and landscape. A better quality open space may result when consideration is given at the design stage to its function and intended character.

Where criteria in the Elements call for a landscape plan, the information may be presented on the streetscape plan or on the site development plan.

The Site Analysis Plan

The intent of this plan is to require the applicant to demonstrate an appreciation of the site and its context, and to identify opportunities and constraints on the layout and design of the site.

Plan details
- scale of plan 1:100 or 1:200;
- title, site boundaries and dimensions;
- contours or Australian Height Datum at ground levels;
- north point on plan.

Topography and services
- direction of fall of the site;
- natural drainage lines or watercourses;
- soil conditions;
- existing services, connection points and easements;
- existing pedestrian and vehicle access points

Orientation
- aspect to sun;
- prevailing winds;
- overshadowing from adjoining buildings and dense planting.

Existing buildings on site
- location of any existing buildings;
- buildings to be retained;
- heritage value (if any).

Vegetation on site
- existing trees—species, condition, height and spread, evergreen or deciduous;
- trees to be retained;
- location of trees, shrubberies and other significant vegetation.

Adjoining property conditions
- land use, and the location of buildings that abut the site (with boundary setbacks noted);
- height of adjacent buildings;
- location of windows within 15 m of the site boundary;
- use of rooms where windows are located;
- location of areas of private open space within 15 m of the site boundary;
- any special features, such as swimming pools or large trees;

Figure 4.2 **Development Application Information**
Source: *AMCORD, Practice Note PND 2*, pp.2–4

- type, height and condition of boundary fences.

Views
- preferred views and site viewpoints;
- significant views by neighbours.

Noise sources
- external major (or potentially annoying) noise sources, eg external air-conditioning plant.

Street character and context
- local transport and parking conditions in the street reserve, including pavement and verge widths;
- location of garage and driveway accesses in the street vicinity;
- major planting in both street reserve and front gardens in the immediate vicinity-location, species, height and spread;
- type and height of fencing to street;
- dominant patterns of building type, scale, form, height, roof pitch, front and side setbacks in the vicinity.

Additional Information for Infill Sites in Established Areas

The intent of this additional information is to demonstrate the visual and functional impact that an infill development will have on an established streetscape.

Streetscape elevations
Coloured sketch elevation or photomontage of the streetscape(s) centred around the proposal, extending for at least two properties on either side of the development site at a preferred minimum scale of 1:100; properties opposite the development; or photographs of character and appearance of the street in the vicinity of the site if a photomontage is not provided.

Frontage details
The siting of the proposed building(s) in relation to the street and any proposed changes in the public street reserve should be provided as part of the streetscape impact information. The streetscape impact plan should include details of how the zone between the building and the carriageway will be treated. The plan should cover at least the same length of the street as shown in the streetscape elevations and be at a preferred minimum scale of 1:200.

Site Development Plan

The intent of this plan is to convey the design concept for the site and how it relates to new public or communal streets.

Layout
- minimum scale of 1:200;
- all buildings and the internal layout of ground-floor dwellings, including window locations;
- the private open space of each dwelling and the designated principal area of such open space;
- the external storage for each dwelling;
- car parking spaces and their allocation to dwellings;
- any shared facilities.

Elevations
- minimum scale of 1:200;
- all elevations to streets;
- relationship of elevations to natural ground level, showing any cut or fill;
- details of proposed fencing abutting public streets and adjacent properties;
- schedule of finishes and colours to main external surfaces, including roofs, walls, fences and garages.

Streetscape details
Statement of character and spatial quality
- role(s) of any internal street(s);
- desired spatial and visual qualities;
- design controls on individual dwellings where individual development on small defined sites/lots is proposed;
- plan of street(s), showing levels or contours and site and dwelling lot boundaries;
- typical building alignments to the street;
- typical street cross-section between buildings, including proposed landscaping.

Landscaping and fencing
- planting concept for street reserve, including location, type and size of major tree planting;
- location, type and size of existing trees to be retained;
- any landscape planting in front of the dwellings;
- proposed fencing details along abutting street(s).

Vehicle movement and parking
- street reservation dimensions;
- location of kerb or carriageway edge, widths of medians, verges and footpaths and cycleways;
- location and width of driveways and crossovers;
- design, colour and finish of all street pavements, parking bays, bus stops, kerbs, paths, crossovers, medians and verges;
- location and quantity of on-street parking;
- location and design of any traffic calming devices.

Figure 4.2 *continued* Development Application Information

Street furniture

- design and location of all proposed street furniture (eg seats, bins, signs) and lighting.

Services

- location of proposed services and whether overhead or underground;
- drainage treatments;
- details of garbage bin storage areas and mail boxes where these are visible from the street.

Landscape Plan

The intent of this plan is to define the character, structure and treatment of proposed landscape development to the site.

Plan details

- preferred plan scale 1:100 or 1:200;
- existing and proposed levels;
- site and dwelling boundaries;
- outline of buildings, showing windows, doors and ground-floor levels;
- location and canopy of existing trees, adjacent streets and trees, noting any trees that overhang the site.

Landscape design

Statement of landscape intent

- purpose and function of landscape;
- desired character and theme.

Landscape structure

- any connection to open space networks;
- intended location of all open space (eg communal areas, service and storage);
- delineation of the principal area of private open space for each dwelling;
- identification of major tree planting;
- scale of trees relative to buildings.

Soft landscape

- planting concept, showing lawn areas, graded areas, trees and planting themes, and ultimate tree canopy, with botanical and common names;
- planting proposed for privacy screening;
- overland drainage proposals.

Hard landscape surfaces

- outline of all hard paved areas (including communal streets, driveways and paths) and identification of purpose;
- paving materials and drainage treatment.

Hard landscape structures

- details of all fencing and walls;
- any proposed privacy screens;
- location of gates, seating, play equipment;
- materials and levels of steps and ramps.

Site facilities

- details of landscaping to garbage bin storage or standing areas;
- location and details of mail boxes;
- details of any proposed signs;
- concept details of additional facilities, such as barbecues and swimming pools.

Services

- lighting for vehicle areas, cycle and pedestrian paths, and security;
- location of underground services;
- location and treatment of substations and meters.

Management statement

It is recommended that a management statement accompany the preliminary landscape plan in situations where other than private open space is provided.

This will help to:

- clarify responsibility between the private and public sectors;
- clarify responsibility between the body corporate and individual residents;
- indicate the intended management and maintenance principles for non-private open space including such matters as:

- grass areas
- ornamental and native planting
- water features
- play equipment
- outdoor furniture
- other facilities.

Figure 4.2 *continued* **Development Application Information**

4.3 The Site Analysis Plan

The analysis process

The importance of the site analysis process and communicating its influence on the design outcomes has already been referred to in Section 3.

Figure 4.2 has shown details of the level of information required.

The Site Analysis Plan is a critical piece of information, integral and complementary to the PB approach to residential design.

Quality

Three factors assist the approval process significantly:

1 **Content**
The level of detail contained on the Plan.

2 **Clarity**
Its legibility.

3 **Evidence**
The accompanying written material explaining the findings of the site analysis process.

Using the plan

As *AMCORD* notes:

> "It is clearly not sufficient to prepare a Site Analysis Plan and then ignore it during the design process.
>
> It is therefore recommended that a written statement be prepared by applicants of housing development projects explaining how the design has responded to the Site Analysis Plan.
>
> Such a statement, to form part of the material required for an application, would greatly assist the design and assessment processes, and is likely to result in a significant improvement in the quality of... housing."
>
> — *AMCORD*, p. 64

4.4 The Site Development Plan

Purpose

Depending on the nature of the development being proposed, the Site Development Plan will usually convey details of the site layout, elevations and the relationship of the proposed development to the streetscape and surrounding development. (Refer also to Figure 4.2.)

The Plan encapsulates in sufficient detail all of the Design Elements of the proposal and how they relate to each other, to adjoining development, and to public streets.

Content

Ownership: public/private

Distinctions need to be made between:

- private, communal and public open space
- public and private roads
- private and visitor car parking areas.

Features

Site planning issues should also be detailed such as:

- the degree of cut and fill
- trees and vegetation to be retained or removed
- areas to be paved or sealed
- stormwater, waste water and waste management initiatives.

Details

The plans or an accompanying schedule should provide details on:

- external finishes
- proposed fencing treatments.

Special requirements

In areas of distinctive character such as Historic Precincts, illustrate the integration of the proposal with the streetscape character by providing:

- streetscape elevations which include adjoining buildings either side of the development site
- all streetscape elements such as fencing, landscaping, street trees, etc.

4.5 The Landscape Plan

Requirements

A Landscape Plan needs to be prepared and submitted as part of the application for specific categories of residential projects.

Councils should classify developments requiring such plans.

Figure 4.2 outlines the range of information to be included, with the level of detail to be provided varying according to the type of development proposed.

Types of development

Typically, applications for multi-unit housing developments (such as dual occupancy, townhouses, units, aged persons accommodation, group dwellings, etc.) which include shared access, facilities and landscaped areas require a Landscape Plan.

Content

The Plan and an accompanying statement from the designer should convey full details and objectives of the landscape design including:

- desired character or theme
- purpose/intent of outdoor areas
- species
- location of plantings and landscape elements (e.g. moundings, pathways, water features/detention basins etc.)
- expected mature height and canopy spread
- whether advanced stock is to be used
- extent and nature of other landscape elements to be used (e.g. furniture, edge treatments, retaining walls etc.)
- details of impervious surfaces and materials
- drainage (particularly if communal areas are proposed)

Integration

It is important to integrate the landscape plan with the residential development design process, rather than regarding it as an "add on" after the site planning of the dwellings.

This will ensure that the relationship between the built form and the natural characteristics of the site is emphasised. At the same time the incorporation of significant natural features and vegetation is also ensured.

Further information

AMCORD provides extensive additional information on landscaping, particularly in:

- *Design Element 5.8: Communal Open Space*
- *PND15: Landscape Guidelines for Water Conservation*
- *PND16: Guidelines for Tree Protection.*

4.6 Other information

Responses to consultation

Neighbours

When formal (i.e. required by law or council policy) or informal consultation with neighbours has taken place, their views should be documented and the proposed response outlined.

This should occur whether or not an applicant has modified a proposal to deal with concerns of neighbours.

Other information requirements

Depending on the type of the development there may be a need to prepare and submit details on other *operational and design aspects* of the proposal such as:

- monetary contributions
- environmental and social impacts
- traffic generation implications of the proposal
- bushfire management initiatives
- soils issues
- regional stormwater management.

This need will normally be identified early in the process through discussions with council staff.

Example

A large scale urban development project may need to address stormwater management issues in the context of a wider catchment. This may require a detailed analysis of the issues and a report on of how the proposal aims to manage stormwater generated within the site.

4.7 Communicating trade-off choices

Making choices

Choices will need to be made by the designer about the importance of various Design Elements, regardless of the size and nature of the residential development proposal.

The following examples illustrate this.

Example 1

Site A *View v. energy efficiency*

A site which offers brilliant views to the south may influence a designer's decision to capitalise on these views, at the expense of the thermal qualities of the dwelling.

This is a considered decision that the design response to facilitate views from the dwelling is justifiable even though this may compromise the energy efficiency of the dwelling.

Extra effort here may well result in a design solution that deals adequately with both Design Elements.

Example 2

Project B *Noise v. aspect*

Another example of weighting and trade-offs relates to a residential development project located on the southern side of an east-west aligned arterial road in a temperate climate zone.

During the site analysis process the design team may decide that the noise generated by traffic using the arterial road is a significant constraint that will need to be addressed during the design process.

The subsequent design solution may involve locating the principal areas of private open space behind and to the south of the dwellings, with the dwellings being used as an acoustic barrier.

This may mean that solar access to the principal areas of private open space will be obstructed for a significant part of the day, thereby compromising the utility of this space and resulting in noncompliance with a particular Performance Criteria.

In this instance a considered decision has been made following the site analysis to satisfy one Design Criteria (noise attenuation for private open space) at the partial expense of another (solar access to private open space).

Both examples illustrate some of the trade-offs that may need to be made during the design process, *unless innovative techniques are explored to accommodate all issues.*

Notes

Affordability

To provide a public benefit or benefits to prospective residents in terms of other design considerations, poor performance in the Intent or Performance Criteria of a particular Design Element may result.

This may also be the case when housing affordability needs to be given specific weight.

Early notice

It is important that trade-off choices are referred to the assessor as early in the design process as possible to ensure that the trade-offs proposed are reasonable and acceptable.

If the decision to satisfy one design objective at the expense of another is not communicated to the assessor, there is a risk that he or she will not understand the reasons behind the design response and criticise the proposal's lack of attention to particular design issues.

This results in delays as further information is sought and the influences on the design response are clarified.

Supporting materials

It is imperative that a proposal for residential development comprises more than a set of drawings which simply illustrate what is proposed.

Without accompanying information, the assessor may not be able to interpret the choices and emphasis of the design response in a similar manner to the designer.

Accompanying information should provide the *reasons* behind the design choices, with sufficient detail to allow the assessor to determine whether such choices are justifiable.

Whole project emphasis

Importantly, the performance-based approach promotes site and market responsive design and development.

It recognises that often, not all design considerations can be met fully, and that an assessment of the project 'as a whole' is necessary.

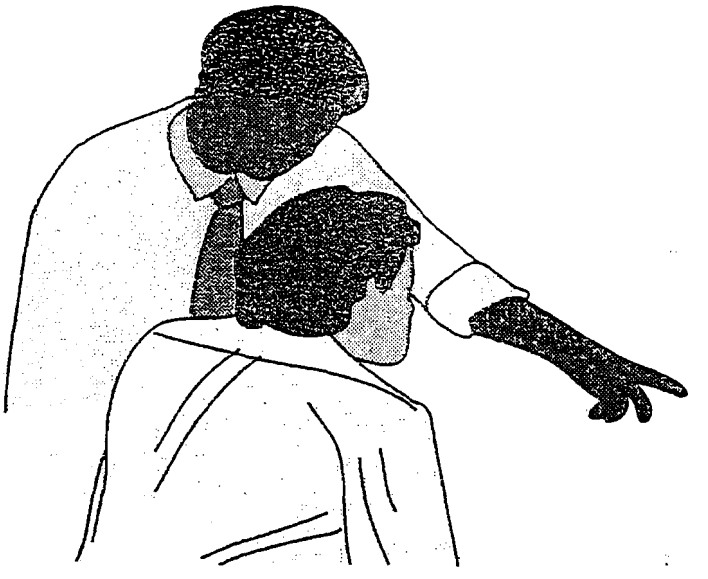
Section

5

Designing and Implementing Performance Based Residential Development

RAPI

Assessing an Application



User's Guide

Assessing an Application

Summary

Overview

The successful implementation of the performance based approach depends ultimately on having an effective application assessment process.

This section outlines a range of relevant aspects concerning assessment, covering both administrative issues as well as decision-making processes.

5.1 The assessment process

Assessment

This is the most significant part of applying the performance based approach.

It involves comparing the appropriate provisions of a plan or code with the site and what is proposed to be placed on it.

The Report

The **Development Assessment Report** is used for this comparative information. It is particularly significant given the *objectives-driven* nature of the PB approach compared with the application of *numerical standards.*

As was stressed in Section 3, the Report's effectiveness depends on the quality of :

✓ **The interpretation**
How its content and communication reflects the plan or code

✓ **The analysis**
The scope and relevance of the Site Analysis

✓ **The argument**
The arguments and analysis contained in the development application.

The Development Assessment Report is the pivotal document in the assessment and determination process.

Contents

The Report includes these sections:

- analysis
- summary of all information and advice provided from other sources
- summary of representations (if any)
- review and judgement by the planning officer(s) involved
- final recommendation to the decision-making authority involved.

5.2 Forms of reporting

Role of reports

In many cases a development proposal will not fulfil all Performance Criteria. Under a performance based code, Development Assessment Reports must try to achieve a *balanced judgement*, based on:

- relevant evidence
- demonstrated performance.

These reports will assume increasing importance and receive greater public exposure as governments, the development and housing industries as well as the general community become more aware of the design approach advocated in *AMCORD* and associated state and council codes.

Skills needed

Compared with the traditional form of assessment, based on prescriptive standards, performance based assessment requires some new skills to perform a range of additional roles and tasks. They include:

- **Clarifying**
  Writing in a manner that can be clearly understood and responded to in public and appeal forums.
- **Interpreting**
  Commenting on the Site Analysis provided by the applicant and understanding how the assessor might interpret it differently.
- **Analysing**
  Paying meticulous attention to questions about which Design Elements are to be addressed in the particular application.
- **Judging**
  Careful and systematic weighting of Design Elements and Performance Criteria and identifying any trade-offs.
- **Reviewing**
  Commenting on how the proposal treats Design Elements and Performance Criteria.
- **Examining**
  Carefully considering the impact of the proposal on neighbours and the locality generally.
- **Illustrating**
  Using graphs, sketches and diagrams to test and illustrate points.
- **Summarising**
  Commenting on representations, particularly when they express different points of view.

- **Facilitating**
  Identifying areas for possible further negotiation, mediation and consultation.

- **Following up**
  Obtaining authorisation and pursuing these processes if the determining authority requests further options or variations.

Methods

Using proformas

Proformas are also important, not only to check that all matters are adequately covered, but also to develop and disseminate a reputable, recognised structure for reporting

Suitable proformas can be developed for different levels of reporting, such as :

- **Routine processes**
  Minor matters decided by officers under delegated authority.

- **Applications**
  Submissions determined by the planning authority

- **Formal proceedings**
  Materials required for appeals.

Reporting under delegation

In current practice some matters are decided under delegated authority with only a small amount of documentation.

By contrast, in performance based systems, it is important to prepare and file Assessment Reports which comprehensively address the issues.

Reporting to councils

For applications determined by councils or other authorised bodies, a properly structured and accurate Assessment Report is essential.

Some councils place limits on the length of reports. They may require a shorter *executive summary* of the report with the full report available at the council meeting (or on request) to cover more complex applications.

Councils have the opportunity to adopt innovative and efficient reporting procedures and to implement reforms when necessary.

Appeals

Appeals against development determinations are usually heard from the beginning of the matter (or *'de novo'*).

This provides an opportunity for the original Assessment Report to be expanded, elaborated and sometimes modified, usually in the form of expert evidence provided to the Tribunal or Court.

Improvements in the quality of Assessment Reports may well contribute to a reduction in the number of applications having to be dealt with by Courts and Tribunals.

5.3 Consultation, negotiation and mediation

Processes

Consultation, negotiation and mediation should be ongoing throughout the proposal formulation, assessment and decision-making phases.

The formal and informal processes and procedures for notification of individual applications and responding to the notification will vary from council to council and between the various states and territories.

Importantly, these processes should work to ensure that a particular proposal is consistent with the visions, objectives and desired outcomes for an area, as expressed in council's strategic or local area plan.

Stakeholders

Consultation, negotiation and mediation are an integral part of the decision-making procedure which potentially involves a broad range of stakeholders. If properly conducted, high quality development outcomes can result, satisfying a range of needs (e.g. market, financial, occupant, community, neighbour).

Trends

Different types of proposals will warrant different approaches. Some states and territories prescribe the level of consultation and notification to take place, according to whether the proposal is for a single or multistorey development.

There is also a trend towards limiting third party involvement in the approval process — and ultimately third party appeal rights — in the interest of providing greater certainty for the developers. Such a trend can only be justified if the community has been involved formulating development policies for the local area, or has been included in the development planning process.

Regardless of these formal statutory processes, there is a continuing need for councils and their elected members to represent their constituents and to formulate effective means of liaison and involvement to achieve better outcomes.

Skill development

Some states and local government associations offer training programs in mediation and some of these deal with development assessment.

Types of consultation

After an application is formally lodged, there are two possible streams of consultation (refer also to *AMCORD PNP2: Consultation*):

- the *formal* processes as required by law
- the *informal* processes which individual councils sometimes adopt according to their particular needs and philosophies.

Responding

Often the formal or informal consultation on an application will unearth particular concerns about a proposal.

At this stage the proponent has the opportunity to respond to these concerns — either by refuting their basis, or accommodating the concern through redesign.

The assessor has an important role to play during this process by providing communication between the proponent (or designer) and the representor.

The assessor's understanding of the design issues and the implications of changes to a proposal for the attainment of other design outcomes is important in negotiating a satisfactory solution for all stakeholders.

5.4 Delegation

When is delegation used?

Many planning authorities use delegation to sort straightforward or minor applications from those which are complex, large or the subject of representations.

Different principles apply to which applications can be decided under delegation.

Some examples include:

1 Councils using a standards-based code leaving the determination of applications which clearly meet those standards to council officers

2 Applications which have not received representations from adjoining residents being dealt with through delegation

3 Different categories of housing applications being dealt with under delegation (e.g. applications for less than a specified number of houses/lots)

4 Applications under a certain identified construction cost being considered under delegated authority.

It is generally the case that a refusal of an application will not be dealt with under delegation, but referred to council for determination.

Review of delegation procedures

With the introduction of codes based on performance, existing delegation structures need to be reviewed.

Level of delegation

As with any new system, the level of delegation may initially reduce and then progressively increase in the light of experience.

To make decisions on development applications as speedy and transparent as possible, the wider use of delegated authority, coupled with an Assessment Report, should be encouraged.

The use of proformas and improved reporting procedures should allow delegation to continue under a performance approach.

Delegated matters can always be referred to council members for decision if an officer decides a particular application should be dealt with in that way.

Referrals

A midway device for this situation is for the application to be presented to council and suitably annotated on the agenda to indicate the officer's recommendations.

The recommendation is then followed without discussion unless elected members specifically indicate that they wish to discuss and determine the application.

5.5 Collaborative decision making

Changes

Over recent years there has been considerable improvement in application approval processes in Local Government.

As well as streamlining decision-making processes, many councils have instigated a collaborative decision-making approach. This involves all relevant council officers, particularly for more complex development proposals. It is common for councils to constitute development assessment units or teams which typically include planning, building, engineering, urban design, landscape, community services and recreation.

Involvement in one of these teams is a useful educational process as council staff are then able to see the design process as both complex and interactive.

It often involves the weighting of specific Design Elements and trading them off against each other to achieve a desirable, *overall* end product.

5.6 Consistency

Consistency of process

Lack of consistency in development assessment processes and outcomes attracts a lot of criticism from council elected members, the community and developers.

In order to avoid criticism regarding **consistency of process** when using a PB approach, it is important to ensure:

- **Equal treatment**
  Ensuring that internal negotiation, consultation and assessment processes are consistently applied to similar categories of development

- **Documentation**
  Outcomes of each of these process components are clearly documented

- **Transparency**
  Reasoning behind various decisions throughout this process is thoroughly and openly reported.

Internal consistency of process is also important in the areas of:

- site analysis
- weighting and trade-offs
- design and reporting
- assessment.

Consistency of outcomes

Variety

While it is important to provide consistency and clarity in the processes adopted throughout the design and assessment phases, under a performance based approach sites with similar characteristics (such as size and type of allotment) are likely to produce quite different development responses.

There will be occasions, that is, when apparently similar situations will, as a result of the particular weighting and trade-offs involved, result in applications being treated differently in terms of design and development outcomes.

Implications for reporting

This will require the Development Assessment Report to be transparent and clear regarding matters of consistency. Consistency in the application of relevant Performance Criteria will be the key determinant rather than requiring the same Acceptable Solutions to be applied from site to site (i.e. irrespective of site, streetscape, neighbourhood and market considerations).

This is different to using a standards-based approach, where it is usually easier to demonstrate consistency of outcomes (i.e. the same fixed standard has been applied consistently). However, this has too often led to unresponsive uniform design proposals.

Change

Finally it is important to recognise that development solutions and processes will evolve and change over time. For example, a solution or technique agreed to by a council for a particular project may, following a review of its performance, be found to be inappropriate or requiring modification.

Greater overall consistency can be achieved through education, training and experience. These experiences can in turn be used to review residential codes and plans and the processes adopted to administer them.

5.7 Further processes

Results of a determination

Options

The determination of an application can produce one of three results:

- approval
- refusal
- deferment
  (pending a request for further information or resolution of a particular issue)

Appeals

If a proposal is approved, third party appeal rights may be possible depending on the nature of the statutory system in place.

A refusal can result either in an appeal against council's decision through the Courts or the lodging of another proposal which addresses the reasons for council's refusal.

The assessment process has to recognise the possibility of appeals (subject to relevant legislation or regulation) by the applicant or third parties against the determination on the application.

Mediation

It is useful for a mediation process to be initiated prior to a matter being formally dealt with in the Court or tribunal.

This provides another opportunity (too often the first) for the parties to review the design and possibly negotiate an agreement.

While the whole process should be aimed at limiting the potential for such appeals, they are sometimes inevitable. There has also been a tendency by disaffected parties in some jurisdictions to enlist the Ombudsman or appeal to a higher court on a matter of law.

Assessor's role

The assessor plays a pivotal role in resolving differences and ultimately providing a development solution for a particular site.

Assessment involves a combination of skills and attributes relating to mediation, knowledge of process and procedures, consistency and fairness, and importantly, design knowledge.

Improving processes

Mediation offers the opportunity to achieve a high quality outcome that satisfies all stakeholders needs without the costs and time delays of a court hearing.

There is a parallel need to improve design and development and at the same time to make any approval process as speedy and certain as possible.

This was recognised under former Commonwealth Government/LGA programs such as RRR, LARP and ILAP.

Summary

The development assessment process for the PB approach is a crucial link between good design and good determination processes.

The professional planner can best advance the objectives of good design and good decision-making through:

- comprehensive process
- integrity
- performance.

5.8 Legal interpretation

Status of AMCORD

AMCORD is not a statutory code, although once adapted and adopted at state or Local Government level it may become one.

However its progressive evolution over many years, and the force of its developing arguments and research has meant that it has been increasingly cited in discussion and determination of applications.

Appeals

It is important to examine what status AMCORD is accorded in appeal situations.

In Adelaide, for example, the Environment, Resources and Development Court has considered its provisions but only where they are of some relevance to clarifying the interpretation of statutory plan provisions.

The definitive statement is probably that in the case *Eva Developments v DC Angaston* of 15 December 1995 where Commissioner Hutchings commented on *AMCORD*:

> "It is an important document that has become a recent reference over recent years. For residential development it particularises data inputs, policy contexts, and design outputs in such a way as to be easily usable by planning practitioners and decision makers and I would expect experts to refer to it as a matter of course.
>
> Nonetheless, while it is perhaps the leading reference on this subject at the present time, it is not the only one. (Indeed, being an evolving document, each new version does not supersede its predecessors — rather it refines them).
>
> Neither is it gospel and no expert should refer to it as such but rather as a reference in the formation of opinions. If anything must be called gospel, it is the authorised Development Plan (or Statutory Code)."

In the course of his judgement, the Commissioner had consulted earlier versions of *AMCORD* "as useful compendiums of the thinking on this subject". That is, *AMCORD* served as a key source for clarifying, in this case, the relevance of open space provisions in a particular development plan.

Legal interpretation where performance based codes are in place

State role

Each state or territory will place a different emphasis on legal interpretations to PB development design and assessment.

For example, prior to the implementation of the *MDH Guide* in Victoria it was mandatory for councils to observe the provisions of *VicCode 2* when determining applications.

In one case the Victorian Administrative Appeals Tribunal commented on the force of the code as follows:

> "The responsible authority must have regard to the performance measure, but then must decide the application, and that decision is not dictated by the meeting or non-meeting of the performance measure. A permit may still be granted whether the performance measure is met or not, provided proper regard was had to it."
>
> — *Bourakis v City of Northcote (1994)* 12 AATR 299 at 293

In a more general philosophical vein about general design considerations attending medium density development, the Tribunal concluded:

> "Although VicCode's intention is to enable advantage to be taken of existing infrastructure to increase the intensive use of land, that code must be applied sensibly so that the character and amenity of the area is not destroyed."
>
> — *Ferguson and Perry v City of Horsham 1993* unreported. See Editorial Comment 12 AATR 193.

5.9 The role of elected members

Recommendations to councils

Many applications for residential development are determined by councils following consideration of a recommendation from council officers.

Such applications are usually for the more complex proposals, or ones involving public notification/ representations.

It is clear that the decision making process for elected members will be made easier if:

- the council has completed a process of up-front strategic and local area planning for its area
- statements of desired neighbourhood character have been formulated, particularly for areas undergoing change.

The implementation of the PB approach is therefore significantly influenced by whether or not the elected members are familiar with its concepts relating to residential design and assessment.

If they are not, the assessment process may run smoothly through to the preparation of an Assessment Report by council officers, only to find scope for significant misinterpretation at the final "hurdle".

Training

This makes it important for elected members to receive the required training immediately following new council elections, so that the full range of government, community and industry objectives relating to housing can be met effectively.

If elected members are unable to attend specific training sessions organised by professional institutes or training bodies, suitably experienced council staff are in a good position to organise such internal training sessions. The sessions could also be conducted on a shared basis, with elected members from more than one council attending a regional training program.

5.10 The future of PB approaches

Changes and improvements to the design and delivery of housing and new communities are occurring throughout Australia, both within established neighbourhoods and in the fringe areas of our towns and cities.

Increased diversity and density, together with the greater recognition of market, environmental and social factors, has required a wider range of issues to be taken into account when designing residential developments.

The performance based approach recognises these needs and provides the necessary framework for the design and assessment of housing projects.

However, success and acceptability of PB codes will ultimately be gauged by a number of factors such as:

- the quality, diversity and affordability of housing products that results from such an approach
- the level of acceptability to the users and consumers of the products of the PB approach
- the degree to which elected members on councils understand, embrace and promote the PB approach to residential development.